

PERSONALITY TYPE PREFERENCES OF  
THE ADULT BASIC EDUCATION AND HIGH  
SCHOOL EQUIVALENCY STUDENT IN SOUTHWEST  
IOWA AND IMPLICATIONS FOR THE SELECTION  
OF APPROPRIATE TEACHING METHODS AND TECHNIQUES

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Drake University

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Specialist in Education

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by

Marie E. Elkin


August 1991

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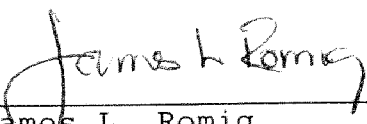
by

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An abstract of a Thesis by  
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August 1991  
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This study investigates the differences in personality of adult basic education students and the general population. It also compares these students to each other in relation to reading ability, gender, reason for returning to school, referral source, reason for leaving formal schooling, age, and preferred method of instruction. Fifty-eight adult basic education students enrolled in an adult learning center were given the MBTI and a demographic questionnaire. The Statistical Package for Social Sciences (SPSSX) was utilized. The findings indicated that these students have similar characteristics to those in studies conducted with at risk youth. There are a larger percentage of introverts and perceives than found in the general population with the greatest number being ISPs. There were, however, no significant differences found in the demographic comparison. This information concludes that a variety of instructional methods are needed in order to create successful outcomes.

## TABLE OF CONTENTS

LIST OF TABLES . . . . .	6
Chapter	Page
I. INTRODUCTION . . . . .	9
Background of the Problem . . . . .	9
Statement of Problem . . . . .	12
Statement of Purpose and Objectives . . . . .	13
Significance of the Study . . . . .	14
Limitations of Study . . . . .	15
Definition of Terms . . . . .	16
II. REVIEW OF THE LITERATURE . . . . .	21
Type Theory and Individual Differences . . . . .	21
Characteristics of Type/Temperament . . . . .	23
Type in Education . . . . .	28
Learning Styles . . . . .	30
Adult Basic Education Overview . . . . .	36
The GED Program . . . . .	38
Adult Basic Education Student Profile . . . . .	40
Student Participation . . . . .	42
Current Adult Basic Education Assessment . . . . .	43
Assumptions . . . . .	45
III. DESIGN OF THE STUDY . . . . .	47
Introduction . . . . .	47
Research Hypothesis . . . . .	47
Subjects . . . . .	49
Instrumentation . . . . .	49
Preparation of the Demographic Instrument . . . . .	51
Collection of Data . . . . .	52
Analysis of Data . . . . .	53
IV. ANALYSIS OF THE DATA . . . . .	54
Introduction and Organizational Statements . . . . .	54
Survey Demographics . . . . .	54



Findings Related to the Question . . . . .	58
Question 1 . . . . .	58
Question 2 . . . . .	62
Question 3 . . . . .	64
Question 4 . . . . .	67
Question 5 . . . . .	70
Question 6 . . . . .	73
Question 7 . . . . .	76
Question 8 . . . . .	79
Summary of Tables . . . . .	82
 V. SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS . . . . .	 83
Introduction . . . . .	83
Summary of Findings . . . . .	83
Recommendations . . . . .	85
Suggestions for Future Studies . . . . .	89
Conclusions . . . . .	90
 REFERENCES . . . . .	 92
 APPENDIX . . . . .	 95
A. Letter to Participants . . . . .	96
B. Demographic Questionnaire . . . . .	97
C. Participant Consent Form . . . . .	98
D. Explanation of Type . . . . .	99
E. Report Form for the MBTI . . . . .	104
F. Characteristics of Type . . . . .	105
G. Temperament Report Form . . . . .	106
H. The Four Varieties of Temperament . . . . .	107

## LIST OF TABLES

Table	Page
1. A personality profile using the MBTI type table to describe preferences of the adult basic education students . . . . .	56
2. A personality profile using the four preference polarities to describe Iowa Western Community College adult basic education students . . . . .	57
3. A personality profile using Kiersey's temperament table to describe preferences of the Iowa Western Community College adult basic education student . . . . .	58
4. A personality profile of adult basic education students compared to the general population utilizing MBTI type theory . . . . .	59
5. A personality profile of adult basic education students compared to the general population utilizing MBTI polarities . . . . .	60
6. A personality profile of adult basic education students compared to the general population utilizing temperament theory . . . . .	61
7. A statistical profile showing the frequencies of adult basic education students reading below the fourth grade level (Level 1) and those reading above the fourth grade level (Level 2) . . . . .	63
8. A psychological profile of adult basic education students reading below the fourth grade level (Level 1) to those reading above the fourth grade level (Level 2) . . . . .	64

9.	A statistical profile showing the frequencies in comparing adult basic education males and females . . . . .	65
10.	A psychological profile of adult basic education male and female students . . . . .	66
11.	A statistical profile showing the frequencies in comparing adult basic education students who returned to school because of employment reasons and those who returned to further their education . . . . .	68
12.	A psychological profile of adult basic education students who returned to school because of employment and those who returned to further their education . . . . .	70
13.	A statistical profile showing the frequencies in comparing adult basic education students who were referred by others and those who referred themselves . . . . .	71
14.	A psychological profile of adult basic education students who were referred by others and those who referred themselves . . . . .	73
15.	A statistical profile showing the frequencies in comparing adult basic education students who listed personal reasons for leaving formal schooling and those who listed school problems . . . . .	74
16.	A psychological profile of adult basic education students who listed personal reasons for leaving formal schooling and those who listed school problems . . . . .	76
17.	A statistical profile showing the frequencies in comparing adult basic education students who are ages 15-29 and those who are ages 30-60+ . . . . .	77

18. A psychological profile of adult basic education students who are ages 15-29 and those who are ages 30-60+ . . . . . 78
19. A statistical profile showing the frequencies in comparing adult basic education students who preferred lecture, a combination of ways, or individualized instruction . . . . . 80
20. A psychological profile of adult basic education students who preferred lecture, a combination of ways, or individualized instruction . . . . . 81

## CHAPTER I

### INTRODUCTION

#### Background of the Problem

In April 1990, Assessment and Adult Basic Education: The Iowa Model was published. Its purpose was to provide information on assessment practices currently in use in adult basic education programs. It was begun in response to Public Law 100-297 and the implementing of regulations of the U.S. Department of Education to measure educational progress of the clientele served in the adult basic education program (Public Law 100-297, 1988).

The study included several target populations such as beginning adult basic education, English as a second language, GED adult secondary, institutional settings, intermediate adult basic education and workplace literacy.

The results of the study showed that the majority of assessment instruments measured reading, math, and language skills. These instruments included the TABE (Tests of Adult Basic Education), ABLE (Adult Basic Learning Examination), Woodcock, SORT (Slosson Oral Reading Test), RFU (Reading for Understanding), WRAT (Wide Range Achievement Test) and others (Iowa Department of Education, 1990a). Only a minimum of personality preference type assessments were noted.

With this in mind, the question arises "What are the personality type preferences of adult basic education students and what are the implications for methods of teaching utilized by ABE instructors?"

Because there are several ways of exploring personality type preference and its relation to learning, several possibilities should be noted.

Keith Golay in his book Learning Patterns and Temperament Styles groups learners into four quadrants:

1) actual-spontaneous learner, 2) actual-routine learner, 3) conceptual-specific learner, and 4) conceptual-global learner (Golay, 1982).

Malcolm Knowles suggests that learner differences can be accommodated by including four techniques in each lesson: 1) interaction, 2) task centeredness, 3) individualization, and 4) self directedness (Knowles, 1986).

Marie Carbo in Reading Style Inventory suggests that teaching techniques encompass 1) audio, 2) visual, 3) tactile, and 4) kinesthetic to best aid four types of learners (Carbo, 1988).

The Gregorc Style indicator divides learners into four categories including: 1) concrete sequential, 2) concrete random, 3) abstract sequential, and 4) abstract random (Gregorc, 1985).

Kolb's Learning Style Inventory describes learners as 1) accommodators, 2) divergers, 3) convergers, and 4) assimilators (Kolb, 1985).

The Social Style Profile by William and Velma Lashbrook depicts persons as 1) analyticals, 2) drivers, 3) amiables, and 4) expressives (Lashbrook, W. & Lashbrook, K., 1979).

It can be seen through the discussion of these indicators that a common pattern grouping arises. Each reference notes four types of learners and through further study it can be seen that the four categories in each instrument contain similarities to the four types in the other instruments.

The challenge becomes to select an instrument which is reliable and valid and possesses continued research in the field of education utilizing the current ongoing research conducted in universities and privately and offers a forum for the presentation of this research through conferences, books, journals, other media, and professional associations.

The Myers-Briggs Type Indicator is such an instrument. It has documented research on file at the Center for Applications of Psychological Type in Gainesville, Florida. Its publications include the Journal of Psychological Type and the Bulletin of Psychological Type. It is a secured instrument requiring purchaser qualifications and requires those administering the indicator to have knowledge of professional testing standards. It is based on Carl Jung's theory of perception and judgment, and the attitudes in which these are used in different types of people. It provides four bipolar scales that can be reported as continuous scores or reduced to a four letter code or "type."

Its benefits are that it 1) is widely used, 2) is researched extensively, 3) is easy to administer, 4) has a nonthreatening format, and 5) has meaningful results.

Its educational uses include 1) understanding individual learning styles, 2) identifying differences in motivation for learning, 3) developing of teaching methods and evaluation tools, and 4) analyzing and improving curriculum.

It is the only personality indicator mentioned as currently in use in assessment practices in ABE in Iowa (Iowa Department of Education, 1990a).

Adult basic education students come from a wide variety of backgrounds and have many reasons for returning to school. Their prior learning experiences have not always been positive. Teachers of ABE know that assessment is much more than testing.

Iowa's current adult basic education program is highly successful and implementation of personality testing for the purpose of determining teaching methods would enhance this success. Teachers often teach in ways they enjoy being taught or with methods that are successful with most students. By using the MBTI preference, teachers could provide more than a "hit and miss" selection of teaching techniques. Classroom climate could be improved and success strengthened.

#### Statement of Problem

Each year over 700,000 adults take the GED tests to determine their ability to achieve a high school equivalency



diploma. Other adults enter basic education programs to upgrade basic skills in English, math, and reading. Many of these adults have been unsuccessful in a traditional school setting or have been away from class attendance for a number of years.

Therefore, it is imperative that adult basic education teachers understand the personalities of their students so that they might adjust their teaching styles to meet these diverse needs, so failure and fears which may be common to these people may be reduced.

#### Statement of Purpose and Objectives

The purpose of this study is to provide a personality profile of the adult basic education student currently enrolled in an adult basic education program and to use this information as a tool for improving the methods used in classroom teaching and student individualization.

Specific objectives include:

1. to compare the personality type preferences of adult basic education students to the general population
2. to provide personality type preference data on those adult students reading above fourth grade level in comparison to those reading below fourth grade level
3. to provide data on personality type preference by gender
4. to provide data on personality type preference by reason for returning to school

5. to provide data on personality type preference by the referral source

6. to provide data on personality type preference by reason for dropping out of traditional school

7. to provide data on personality type preference by age

8. to provide data on personality type preference by the preferred method of instruction

### Significance of the Study

This study was conducted with adult basic education students (ABE and GED) to promote understanding of the personality preferences of those who have dropped out of school, or have limited reading skills and who have now returned. It also provides information which may be incorporated into teaching techniques which enable improved learning and potential withdrawal from the program.

It also incorporates information which addresses current educational trends and studies by addressing the following:

1. The educational focus of the U.S. during the 1990s will be in the area of basic education.

2. Attention to the at-risk student is currently being studied.

3. Limited studies have been completed which give personality preferences of adult basic education students.

4. Instructional techniques can be changed and modified according to the findings of this study.

5. Adult basic education student's self concept will improve when they understand their preference for learning.

6. Time spent matching teacher to student in current individualized instructional programs will be reduced.

#### Limitations of Study

1. Personality testing using preference indicators may create error in finding exact type. Adults often use all facets for their personality preference and do not know what they prefer.

2. The adult personality and behavior consists of more than type preference. It includes environment, values, past experience, learning style, and gender (Elkin, 1990).

3. This study does not consider the preference scores of each test taker. Preference scores indicate strength of preference.

4. True type preference may be difficult to obtain because some adult basic education students have limited reading and comprehension skills. They have limitations in understanding of self.

5. Available type verification methods which provide individual counseling and self assessment were not used.

6. Individualized instruction is utilized by instructors in the adult basic education program. Students of a particular type may be more likely to prefer this method and thus be a student in these programs.

7. Personality testing is not a current part of the assessment practices in the sample area adult basic education program.

8. The sample was limited to adult basic education students in Council Bluffs served by Iowa Western Community College.

#### Definition of Terms

Adult Basic Education (ABE) - a program of education which helps adults whose skills are below the eighth grade level to improve their skills in reading, math, and English.

Adult Basic Education Student - a person currently enrolled in an adult basic education class or high school equivalency class.

Assessment - any practice or procedure that is used to measure a student's learning style, ways of achieving, and projected outcomes.

Auxiliary Function - the process which is secondary to the dominant process. If perception is the favorite process it is the judging process or supplies judgment. If the favorite is the judgment process it supplies perception.

Chi-square Test - the comparison of two sets of frequencies. These are observed and expected.

Degrees of Freedom - the number of observations which are free to vary once certain restrictions are placed on the data.

Dominant Process - the centerpost or core of one's personality. The most frequently used and most mature and reliable mental process (Lawrence, 1982).

General Educational Development Test (GED) - a series of five tests which include writing skills, mathematics, social studies, science, and interpreting literature and the arts. Successful completion of these tests will result in a high school equivalency diploma.

Global Learning - using concepts and theories to gain information and knowledge.

High School Equivalency Class - a program of education which prepares students to take the GED tests. It is sometimes referred to as GED/Adult Secondary Education.

Linear Learning - using a sequence or step by step process to gain information and knowledge.

Mean - a measure of the central tendency of the average numerical value of a set of scores. It is calculated by adding all of the scores and dividing the sum by the number of scores.

Median - that point in a distribution of measures below which 50% of the cases lie.

Mental Process - the core process used by a particular personality type. It includes sensing, intuition, thinking, and feeling.

Mode - the value of the distribution (score) which occurs most often.

Myers-Briggs Type Indicator (MBTI) - an instrument designed by Katharine Briggs and Isabel Myers to make the psychological types described by C. G. Jung understandable in people's lives (Myers & McCaulley, 1985). It contains the following polarities:

Extraversion/Introversion (E/I) - a person's interests which flow mainly to the outer world of action, objects, and persons prefers extraversion (E). Those preferring introversion (I) have interests which flow to the inner world of concepts and ideas. (Extraversion not extroversion is the spelling used in all MBTI work.)

Sensing/Intuition (S/N) - a person who perceives the world as immediate, real, and based on solid facts of experience prefers sensing (S). A person who perceives the world in possibilities, meanings, and relationships of experience prefers intuition (N).

Thinking/Feeling (T/F) - a person who makes judgments or decisions based on objectivity, analyzing facts, and ordering them in terms of cause and effect prefers thinking (T). Those who make judgments or decisions subjectively and personally, weighing values and the importance of choices for oneself and other people prefers feeling (F).

Judging/Perception (J/P) - persons who live in a planned, orderly way, aiming to regulate and control events prefer (J). Those individuals who live in a flexible, spontaneous way, aiming to understand and adapt to events prefer perception (P) (McCaulley & Natter, 1974).

Personality - the complex characteristics that distinguish a particular individual, or individualizes or characterizes a relationship with others (Cole, 1986).

Preference Type - a person's preferred manner for using processes of perception and judgment based on concepts of Jung's type theory (McCaulley & Natter, 1974).

Random Sample - a sample selected in such a way as to guarantee equal probability of selection to all possible samples of this size that could be formed from the members of the population involved.

Range - the smallest interval on the score scale which will include all of the measures in the distribution. The difference between the highest and the lowest scores of the variability of the scores of the distribution.

Standard Deviation - is a measure of variability, dispersion, or spread of a set of scores around their mean value.

Standard Error - the difference of the two means.

Standard Score - is one derived from a raw score so that it can be expressed on a uniform standard scale without

seriously altering its relationship to other scores in the distribution.

Standardized Test - a test is standardized if it is based on a systematic sampling of behavior, has reliability and validity, is administered and scored according to specific instruction, and is widely used (Iowa Department of Education, 1990a).

Statistically Significant Difference - a large enough difference between two comparable statistics computed from separate samples to indicate that the probability of a difference as large as the observed difference would not be expected to occur by chance more than a specified number of times in one hundred.

Variance - the mean of the squared deviation scores.



## CHAPTER II

### REVIEW OF THE LITERATURE

The literature related to the Myers-Briggs Indicator and its implications for adult basic education consideration will be given to two factions: 1) the significance of type theory and 2) the current developments and implications of relevant data in adult basic education.

#### Type Theory and Individual Differences

When research of literature is conducted concerning the MBTI, reference often begins with a general description of each of the polarities; the dominants and characteristics of each four letter type as described by Isabel Myers and based on the work of C. G. Jung.

Jung's theory assumes that to function well, an individual must have a well-developed system for perception (either Sensing or Intuition) and a well-developed system for making decisions or judgments (either Thinking or Feeling). In more familiar terms, there must be a way to perceive the Stimulus and to make an adequate Response.

A "type" is a dynamic, not a static concept, and denotes the consequences of developing one's preferred ways of using one's mind. The complexity in the theory comes from assumptions that in some types the dominant force in the personality is one of the perceptive processes, aided

by a judging process. In other types, a judging process is the dominant force, aided and balanced by an auxiliary perceptive process. The types further differ in whether these dominant and auxiliary processes are used in the extraverted or introverted attitudes.

Four interacting preferences are used to generate each of sixteen types. In each type, one pole of each of the four preferences is preferred over the other, and through use becomes more highly developed (McCaulley, 1974). The four preferences are:

- E Prefer to focus on the outer world of people and things.
- I Prefer to focus on the inner world of thoughts, feelings, or impressions.
- S Focus on the present reality and on the information brought by one's senses.
- N Focus on possibilities and relationships and look toward the future.
- T Base one's judgments on logic and objective analysis; tend to be more task oriented.
- F Base one's judgments on personal values; tend to be more person oriented.
- J Like a planned and organized approach to life; tend to want things settled and decided.
- P Like an adaptable, flexible, and spontaneous approach to life; like to stay open to new experience.

A type is designated by four letters creating a shorthand for a complex theory (Myers, 1987).

Though some characteristics may be similar within individual polarities, it is only within the four temperaments coupled with a knowledge of the sixteen types that significant characteristics are noted. The inner action of all of the preferences create the information necessary

to select appropriate teaching methods to most correctly aid students; especially those who are or have been at risk.

It needs to be noted that to ignore personality characteristics is to ignore the learner (Giovannoni, 1989). Learners can be best described by relating their type to their preferred educational strategies.

#### Characteristics of Type/Temperament

Characteristics of the sixteen types, their dominant and auxiliary function and characteristics of temperament are as follows:

ISTJ - serious, quiet, practical, and orderly, realistic, and dependable. Their dominant function is sensing and their auxiliary function is thinking. They are linear learners with a strong need for order. They like direct experiences, well defined goals, and practical tests. They learn from audio visuals and lectures.

ISTP - values exactness, interested in impersonal principles, and cause and effect. Their dominant function is thinking and their auxiliary function is sensing. They are linear learners who need help in organizing and with time management.

ESTP - good natured, tolerant, easygoing, oriented to practical, firsthand experience, and highly observant of detail of things. Their dominant function is sensing and their auxiliary function is thinking. They are linear learners who need help in organizing. They like group

projects, reports, and competition. Direct experience is important.

ESTJ - practical realist, matter-of-fact. Like to organize and run activities. Their dominant function is thinking and their auxiliary function is sensing. They are linear learners with strong need for structure. They like direct experience, group projects, class reports, and team competition.

ISFJ - responsible and conscientious people who work to meet their obligations. Stable, painstaking, and accurate. Their dominant function is sensing and their auxiliary function is feeling. They are linear learners with a strong need for order. They like lectures, working alone, direct experience, and practical tests.

ISFP - friendly, sensitive, and modest about their abilities. They do not care to lead. They enjoy the present moment. Their dominant function is feeling. Their auxiliary function is sensing. They are linear learners who need help in organizing. They need well-defined goals, and harmony in group projects and enjoy working alone.

ESFP - outgoing, friendly, accepting, and like remembering facts. They like situations with sound common sense. Their dominant function is sensing and their auxiliary function is feeling. They are linear learners who need help in organizing. They like direct experience, audio visuals, practical tests, group projects, and class reports.

ESFJ - talkative, positive, born cooperators. They work best with plenty of encouragement and praise. They are interested in things that directly affect people's lives. Their dominant function is feeling. Their auxiliary function is sensing. They are linear learners with a strong need for structure. They like well-defined goals, harmonious group projects, direct experience, and practical tests.

INFJ - succeed by perseverance and originality. They are quietly forceful, conscientious, concerned for others. They have clear convictions and firm principles. Their dominant function is intuition and the auxiliary function is feeling. They can be global or linear learners. They like theory, working alone, open-ended instructions, and harmonious group work.

INFP - care about learning, language, independent projects. Often undertake too much but usually complete all tasks. Their dominant function is feeling and the auxiliary function is intuition. They are global learners who need help in organizing. They like reading, listening, open-ended instruction, and autonomy.

ENFP - enthusiastic, high-spirited, ingenious, and imaginative. They rely on their ability to improvise and can find compelling reasons for whatever they want. Their dominant function is intuition and their auxiliary function is feeling. They are global learners who need choices and

deadlines. They like seminars, group projects, team competition, and class reports.

ENFJ - responsive and concerned for others; especially their feelings. They can lead groups. Popular, tactful, and sympathetic. Their dominant function is feeling. Their auxiliary function is intuition. They are global and linear learners. They like seminars, group projects, class reports, listening, and pencil and paper tests.

INTJ - organizers, creative, independent, and determined. They complete their tasks with or without help. Their dominant function is intuition and their auxiliary function is thinking. They can be global or linear learners who enjoy working alone, paper and pencil tests, and open-ended instruction.

INTP - quiet, theoretical, and logical. They have sharply defined interests usually in science or theory. Their dominant function is thinking and their inferior function is intuition. They are global learners who need help in coming to closure. They are global learners who like autonomy, working alone, consideration of theory, and open-ended instruction.

ENTP - outspoken, problem solver, and stimulating company. They have many interests. Their dominant function is intuition and their auxiliary function is thinking. They are global learners who need choices and deadlines. They like seminars, reading, listening, open-ended instruction,

ENTJ - decisive, leader, intelligent speakers. They are positive and confident. Their dominant function is thinking and their auxiliary function is intuition. They can be global or linear learners who like seminars, class projects, reports, listening, and open-ended instruction (Lawrence, 1982; Myers, 1980; Schemel & Barbely, 1981).

Explanations of the temperaments are as follows:

SJ - traditionalist, stabilizer, or consolidator. Carefully preserves traditions, knowing that these bring comfort, belonging, and continuity. They are decisive and enjoy the decision making process. They can absorb and manage lots of detail. Patient, steady, and thorough they seldom make errors of fact. They are outstanding at precision work and follow through on commitments.

SP - natural negotiator, trouble-shooter, diplomat. They are good at responding to crisis situations. They have a clear sense of reality. They are open-minded, flexible, and love to risk. They can make rapid corrections and are very open to change. They can brighten the environment by their energy, wit, and stories.

NF - highly person-oriented. They are able to draw the best out of people and commit deeply to them and their dreams. They are able to communicate caring and enthusiasm and have empathetic listening skills. They have lots of energy and enthusiasm. They are very good at turning liabilities into assets.

NT - very visionary; has to be designing, conceptualizing in order to feel good about himself/herself. They are skeptical and question everything including themselves. They grasp the interworkings of a system quickly; are responsive to new ideas and problem solving. They are excellent decision makers and are usually highly skilled in various abilities and competencies (Kiersey & Bates, 1984; Kroeger & Thuesen, 1988; Golay, 1982).

It should be remembered that psychological type concerns itself with the way people prefer to use their minds and specifically with the way they perceive and the way they make judgments (Myers, 1980). It needs to be considered, however, that some individuals develop personality characteristics which are in direct opposition to their preference (Elkin, 1989).

#### Type in Education

When learning styles of students are given on the indicator they are grouped into four temperaments (Kiersey & Bates, 1984). When considering at-risk factors, they are grouped in six categories which include the temperaments as well as sensing and intuition (Giovannoni, 1989). Educators also may relate the factors of each polarity in correlation with intelligence and aptitude and/or with rank in class (Myers & McCaulley, 1985).

Appraisals of these studies indicate some consistent and important information and show that the judging and perceiving preferences are most highly correlated to a stu-



dent's achievement. Sensing (S) types are more often poor readers and have difficulty generalizing beyond immediate facts. They do well in traditional instruction and testing while intuitive types fair better in higher education, i.e., if they have an intuition (N) factor combined with a judgment (J) factor which creates persistence to a higher level of education. Sensing-Perceptives (SPs) often found school difficult because of the constant requirement of practice and routine (Myers & McCaulley, 1985).

In Colleen Hester's study concerning performance and learning tasks, significant difference was found not so much related to the judgment (J) and perceiving (P) factors but to the types of tasks given. Perceptives (P) scored significantly higher than judgers (J) on the hidden patterns task and the logical reasoning task. Intuitives (N) outscored the sensors (S) on the similarities task; intuitive (N) perceptives (P) outscored the sensing (S) judgers (J) on the vocabulary test, etc. The conclusion reached from this and other data suggests individual differences in achievement are at least moderately related to the learning task, thus creating a need for a variation in teaching techniques to create a learning environment which can influence aptitude (Hester, 1990).

In order to do this consideration must be given to the percentages of type in our current population and educational settings.

Common percentages derived from current data conclude that 70% of the population is extraverted, 30% of the population introverted.

Seventy percent (70%) of the population is sensing and 30% of the population is intuitive.

The thinking preference percentage of the population is 50% and the feeling preference is 50%. Gender differences alter these figures.

Fifty-five percent (55%) of the population prefers judgment and 45% of the population prefers perception (Jeffries, 1991). This reflects the general population.

In public schools, temperament percentages show that 38% of the population is sensing/perceptive (SP); 38% of the population is sensing/judgment (SJ). Twelve percent (12%) of the population are intuitive/thinkers (NT) and 12% are intuitive/feelers (NF) (Golay, 1982).

### Learning Styles

Two concepts are often used to describe learning styles. They are 1) four interfacing preferences and 2) temperament theory.

The four interfacing preferences are used to create the sixteen types. One pole of each preference is preferred over the other (McCaulley, 1974). Discoveries leading to conclusions about the learning styles of each of these polarities can be summarized as follows:

Extraverts (E) - A) prefer group learning, B) like action projects, C) have shorter attention spans, D) like concept to follow experience, and E) like trial and error.

Introverts (I) - A) prefer individual learning, B) enjoy library projects, C) have a longer attention span, D) like concept to precede experience, and E) avoid trial and error.

Sensing (S) - A) like solid facts, B) prefer practical experiences, and C) want tangible results.

Intuition (N) - A) like working with ideas, B) want to find the meaning in relationships, C) are interested in possibilities or theories, and see establishment of a theory as a result.

Thinking (T) - A) wants an objective opinion, B) wants to know factual outcomes and consequences, C) wants grading to be fair and impersonal, and D) believes lessons should follow logical principles.

Feeling (F) - A) wants alternatives, B) wants lessons to have social sensitivity, and C) likes working with and being valued by people.

Judgment (J) - A) needs lessons to be a step by step process, B) likes timed tests and due dates for projects, and C) wants a controlled environment.

Perception (P) - A) likes classroom flexibility, B) needs to create their own time limits and work loads, and C) needs an opportunity for spontaneous interaction

Temperament, on the other hand, is more concerned with behavior and how the students perceive life and make decisions. It gives less credence to the outward or inner focus of the student's world. It uses four modes or combinations founded originally by Hippocrates.

The following styles are combinations of temperament theories by Golay (1982), Kiersey and Bates (1984), Johnson (1988), Knowles (1986), Gregorc (1985), and Elkin (1990). They are grouped by temperaments in the categories most commonly familiar to those using the MBTI.

#### Sensing/Perceptive (SP)

1. Hungers for action and freedom to act
2. Characteristics - performer, player, adventurer, fun loving
3. Usual classroom does not fit unique learning style
4. Needs physical involvement - hands-on experience
5. Needs activity, competition
6. Likes media presentations
7. Rebels against close supervision - instructions are something to outwit
8. Traditional school technology of little appeal - drop out early
9. Paper and pencil work deadly
10. Homework is almost futile
11. If genuinely liked will be most cooperative and liked by other students.
12. Likes interaction

13. Needs variety
14. Acts spontaneously
15. Learns from experience
16. Stimulus-rich
17. Orders the world in random three dimensional patterns
18. Cognitive style is often kinesthetic

#### Sensing/Judgment (SJ)

1. Relates well to traditional classroom and the traditional teacher
2. Values of teacher accepted - study habits, homework, teacher's directions
3. Like workbooks
4. Need structure, learn best when lesson is presented in increments
5. Needs clear directions
6. Does not thrive on long term independent projects
7. Responds best in writing
8. Dependability dissolves when asked to speculate, invent, improvise
9. Thrives on stability
10. Likes a given task
11. Identifies and memorizes facts
12. Meticulous in work
13. Should be given responsibility
14. Wants personal proof

15. Orders the world in sequential, step by step linear progression
16. Cognitive style is often visual

Intuitive/Thinkers (NT)

1. Must know all they should know, list of should-knows is endless
2. Independent learner, likes to pursue inspirations
3. May put off writing findings
4. May not complete homework
5. May be a loner in class - needs help appreciating other qualities besides intelligence
6. Oblivious to other's feelings
7. Needs help establishing priorities especially recreation
8. Has built-in self-doubting system - needs constant success experiences
9. Likes individualization
10. Learns criticism through experiment
11. Has high standards for improvement
12. Believes the real world is abstract
13. Has a polysyllabic and highly verbal use of language
14. Orders the world by sequential and two dimensional patterns
15. Cognitive style is often audio

## Intuitive/Feeler (NF)

1. Wants to be "Himself" as well as "Somebody"
2. Sarcasm or ridicule is unwise and cruel
3. Thrives on recognition, caring, personal attention
4. Needs personal feedback on papers
5. Likes discussion method, role playing
6. Cooperation rather than competition
7. Self competitive and willing to share
8. Enjoys subjects focusing on people
9. Likes democratic classroom
10. Responsive to teachers who are accepting, verbalize recognition, individualize instruction
11. Wants self directedness
12. Learns through personalization
13. Enjoys learning about values
14. Wants to be seen as unique
15. Enjoys interacting
16. Has metaphoric use of the language
17. Orders the world in a random multidimensional way
18. Cognitive style is often tactile

Studies of at-risk students show a definite correlation between sensing and sensing perceiving (Giovannoni, 1989). In the elementary grades, sensing students outnumber intuitive types two or three to one. However, the higher one goes on the academic ladder, more intuitives can be found. The demands of higher education for complex problem solving,

and work at an abstract theoretical, and sometimes imaginative level suits the interests of the intuitive (Cole, 1986).

Overall, however, all students have the most success when they have an equal opportunity for success through a variety of teaching styles and if their natural preferences are cultivated (Wheeley & Foley, 1987).

#### Adult Basic Education Overview

Adult basic education in Iowa is reflective of many trends to improve literacy and provide for GED preparation for adults.

The scope of adult basic education in Iowa is reflected in the "Philosophy of Adult Basic Education for Iowa." The philosophy states: Adult basic education is an organized effort to provide basic skills to adults, 16 years of age and older, who are not enrolled in school. The purpose of adult basic education as cited in the enabling legislation is to:

- \* enable all adults to acquire basic skills necessary to function in society
- \* enable adults who so desire to continue their education to at least the level of completion of secondary school
- \* to make available to adults the means to secure training that will enable them to become more employable, productive, and responsible citizens

Adult basic education programs are implemented through the merged area schools' adult education delivery system



in active cooperation and coordination with human services agencies. The local adult basic education program has the freedom, flexibility, and responsibility to serve those adults lacking basic skills (Iowa Department of Education, 1982).

Continual updating of and adherence to this philosophy is presented in the Adult Basic Education State Plan. The most current is for fiscal years 1990-1993.

The plan provides the following:

1. legal basis on which the State of Iowa, through the Iowa Department of Education, will qualify to participate in the adult education State-administered basic grant program under the Adult Education Act

2. comprehensive statement of the Iowa Department of Education's goals, objectives, priorities, and methods under which the agency will administer the program

3. basis for common understanding among the Iowa Department of Education, other participating entities, the U.S. Department of Education, program reviewers, and auditors

4. basis for both immediate and long-range planning and for continuous, systematic evaluation

5. means to facilitate communication and program support through the involvement of local adult education teachers and administrators, advisory or planning representatives, and other State and local decision makers in developing, reviewing, and administering the State plan.

The plan is comprehensive in scope and descriptive of Iowa's programs as well as the services.

The plan's concepts include 1) proactiveness, 2) accountability, 3) planning, 4) evaluation, 5) research, 6) utilization and dissemination of research and evaluation results (Iowa Department of Education, 1989a).

These are provided under this program in the form of basic literacy skills, English as a second language, teacher training programs, identification of adults in need, cooperation with other agencies, ABE and GED instruction, special emphasis on literacy for the homeless, instruction for institutionalized adults, workplace literacy, opportunity to complete a high school diploma or high school equivalency diploma and to conduct the Iowa GED test norming study (Iowa Department of Education, 1989a).

#### The GED Program

One of the most comprehensive and formal purposes of the Adult Basic Education Program is preparation for and the administering of the Tests of General Educational Development. Tests given include writing skills, mathematics, social studies, science, and interpreting literature and the arts.

The program began in 1942 with the development of a battery of tests for U.S. military personnel who had not completed their high school studies. It provided an opportunity for these people to demonstrate that they had

acquired the learning outcomes expected of a high school graduate.

After the war, ACE (American Council on Education) began directing the GED Testing Program. In the 1950s, several states began to recognize successful GED candidates by issuing credentials based on the examinations. These credentials were considered equivalent--for purposes of occupation, military service, and college admission--to a high school diploma.

From this modest beginning, the GED Testing Program has grown considerably. Today, the tests are used in all 50 states, U.S. territories, and in most Canadian provinces (Iowa Department of Education, 1989b).

During 1989, 682,728 people took the GED tests at over 3,400 testing locations. Approximately 68% of the examinees who completed the test battery in 1989 earned scores sufficient to qualify for the GED diploma awarded by their state, territory, or province. Departments and ministries of education in the United States and Canada awarded 376,879 credentials.

The statistics in this report demonstrate that the GED testing program continues to offer a substantial number of people the opportunity to qualify for a GED diploma. Since 1971, the program has enabled over seven and one-half million adults to obtain formal recognition of their educational development through their attainment of a GED diploma (American Council on Education, 1989).

### Adult Basic Education Student Profile

Each Iowa Adult Basic Education program gathers information about each student who enters the Adult Basic Education programs. These data include classification by grade level in math and reading, race, age, progress by instructional level, status, reason for program entry, sex, highest grade completed, and referral source.

The trend analysis for the enrollment for FY'89 to FY'90 reported the unduplicated count by population group and sex.

1. 26,951 (64.93%) participants were classified as either beginning or intermediate ABE.
2. 3,519 (8.47%) participants were classified as beginning, intermediate, or advanced ESL.
3. 11,037 participants (26.59%) were classified as adult secondary education.
4. 17,437 males (42.01%) and 24,070 females (57.99%) were enrolled in the ABE/ESL/Adult Secondary Education Program.
5. 13,660 (32.91%) were between the ages of 16-24.
6. 15,167 (36.54%) were between the ages of 25-44.
7. 4,594 (11.06%) were between the ages of 45-59.
8. 8,086 (19.48%) were 60 and older.

The duplicated count of participant status on program entry included:

1. 11,542 (12.35%) disabled adults
2. 1,529 (1.63%) homeless adults

3. 10,132 (10.84%) adults in correctional facilities or in other institutionalized settings
4. 30,600 (32.76%) adults classified as a combination of employed or unemployed
5. 11,584 (12.40%) adults on public assistance

Trends established by statistical analysis showed that 1) a significant number of minority populations are being served, 2) the largest percentage of participants are between ages 25-44, 3) a significant number of participants are progressing to higher instructional levels, 4) the major reason for program separation was participants meeting personal objectives, 5) a significant number of target populations are being served (e.g., disabled, homeless, institutionalized/correctional, public assistance, etc.), 6) participants gaining employment was the most significant program achievement, 7) classes are being held in a wide variety of school/community/institutionalized/home-based/work site settings, thus demonstrating a major statewide outreach function: The majority of participants (74.01%) were served in a combination of: a) community colleges, b) learning centers, c) correctional/institutional, d) Community Based Organization (CBO's) locations, 8) a significant number of personnel, paid and volunteer, are involved in the ABE/ESL/GED program (Iowa Department of Education, 1990b).

### Student Participation

Adult basic education students have need of ABE educational programs for a variety of reasons. They also fail to participate or drop out of classes for reasons sometimes paralleling the reasons they disliked public school or dropped out of public school.

Personal reasons were cited in a 1990 GED Profiles study as the major reason for leaving high school. The percentage was 34.7%. Some 19.7% left school due to pregnancy or marriage, and 18.7% cited a need to work or support themselves or others as a reason for leaving school. Only 6.4% left because they were not doing well in school (GED Profiles, 1990). These somewhat compared to the studies completed by Beder in 1989 which found the following as reasons for not completing high school.

<u>Reasons for not completing high school</u>	
<u>Reason</u>	<u>Percent (N=133)</u>
1. Had to work on farm/went to work on farm	11.3
2. Had to work/went to work	18.7
3. Poor family finances, had to help	18.8
4. Failed to complete courses/got behind	6.8
5. Parental interference	9.0
6. Got married/pregnant	14.0
7. Illness	3.8
8. Disliked school	4.5
9. High school too far distant/not available	12.0
10. Personal conflicts with school	7.5
11. Didn't need high school	6.0
12. Other	5.3

Note: Respondents could list more than one reason.  
Source: Beder (1989)

Adult students who have dropped out of school are sometimes motivated to return to school. Sometimes they are not. The four most frequent reasons are 1) situational barriers, 2) low perceptions of need, 3) perceived difficulty, and 4) dislike of school (Beder, 1989).

Students who return to school are motivated by ten (10) factors: 1) self improvement, 2) family responsibilities, 3) diversion, 4) literacy development, 5) community/church involvement, 6) job advancement, 7) launching, 8) economic need, 9) educational advancement, and 10) the urging of others.

The students can be identified in six categories which include 1) mainstream women, 2) least affluent/least employed, 3) young adults, 4) the urged, 5) the climbers, and 6) low ability strivers.

The major reasons and most important factors to participation are not only the motivators but their relationships in the ABE classroom with peers, the progress they are able to make, the types of materials they receive, the teaching, and the way they are treated (Beder & Valentine, 1987).

#### Current Adult Basic Education Assessment

Assessment of ABE students in the state of Iowa has been researched and documented. All practices used with learners including those working to obtain a GED and those who were improving basic skills noted the following assessments. These assessments were grouped into three cate-

gories: 1) testing, 2) student goal setting, and 3) other performance measures.

Testing instruments included: Tests of Adult Basic Education (TABE), Adult Basic Learning Examination (ABLE), Official GED Practice Tests, and other competency examinations.

Most student goal setting did not include formalized testing but instead was completed through anecdotal records, student intake, progress information reviews, and teacher observations.

Other performance measures included student academic and employment records and life skills assessments. Most of these were informal.

According to the Iowa Department of Education (1990a) it was concluded that:

1. Iowa's Adult Basic Education program utilizes comprehensive assessment practices and procedures.
2. The end result of all assessment is to assist adult learners in achieving their learning objectives.
3. The assessment strategies serve specific target populations in Iowa's Adult Basic Education programs.
4. Assessment instruments are utilized to provide an indicator of program effectiveness in relation to the stated goals of the local program plans and



the Iowa Adult Basic Education State Plan: Fiscal Years 1990-1993.

5. Iowa's Adult Basic Education program is meeting the needs of the adult clientele as documented by:

- (1) Iowa's Adult Basic Education Target Population Studies
- (2) Iowa's GED Norming Study

#### Assumptions

The following assumptions can be derived from the review of literature:

1. Personality type preference designates a preferred learning style.
2. Adult basic education students have various reasons for initially dropping out of school or not satisfactorily mastering basic skills.
3. Adult basic education students prefer a variety of teaching methods depending on their personality preference.
4. Adult basic education students have various reasons for returning to school.
5. The most definitive indicator for determining learning styles is the Myers-Briggs Type Indicator.
6. The Myers-Briggs Type Indicator offers habitual tendencies which relate directly to student motivation.
7. Knowledge of the Myers-Briggs Type Indicator provides a process for observable type preferences.

8. Assessment procedures currently used by adult basic education teachers include written, oral, and observable behavior techniques.

9. Since no statistical instrument measuring learning styles is currently uniformly used in adult basic education, use of the Myers-Briggs Type Indicator in relation to adult basic education could provide a replication model for the teaching of learning styles in other adult basic education programs both in Iowa and nationally.

## CHAPTER III

### DESIGN OF THE STUDY

#### Introduction

A review of Chapters I and II of this study shows the importance of recognizing the learning styles of adults and the importance of integrating learning styles and personality characteristics into a productive learning environment.

The study's intent was to provide instructors with information which shows profiles of current adult basic education students and to present conclusions which may help instructors develop appropriate teaching methods for individuals as well as classroom settings. The descriptive research design used in this study gives information on current students and existing conditions.

#### Research Hypothesis

There will be differences in personality type preferences of adult basic education students and those of the general population but the factors of grade placement, gender, age, reason for leaving school, reason for returning to school, referral source, and preferred method of instruction will amongst themselves create no significant differences.

The following research questions were used to draw conclusions contained in this study.

## Question 1

Is there a difference between personality type preferences of adult basic education students and those of the general population as measured by the MBTI?

## Question 2

Is there a difference between the adult basic education student reading below or at the fourth grade level and those reading above the fourth grade level as to personality type preference as measured on the MBTI?

## Question 3

Is there a difference between adult basic education male and female students' personality type preferences as measured on the MBTI?

## Question 4

Is there a difference between reasons adult basic education students returned to school and personality type preference as measured on the MBTI?

## Question 5

Is there a difference between adult basic education students' referral source and their personality type preference as measured on the MBTI?

## Question 6

Is there a difference between the reason for the adult basic education student dropping out of traditional school and personality type preference as measured on the MBTI?

#### Question 7

Is there a difference between age of adult basic education students and personality type preference as measured on the MBTI?

#### Question 8

Is there a difference between the preferred method of instruction and personality type preference as measured on the MBTI?

#### Subjects

Selection of the adult population was made from the Iowa Western Community College Adult Learning Center Adult Basic Education program. They were selected at random and were given Form G of the Myers-Briggs Type Indicator. Fifty-eight persons were selected. Those with reading below the seventh grade level were aided by an oral reading of the indicator. Participation was voluntary.

All subjects have taken the Myers-Briggs Indicator and have had workshop or individual instruction in basic type concepts.

#### Instrumentation

##### Description of the MBTI:

The Myers-Briggs Type Indicator written by Isabel Briggs Myers and Katharine C. Briggs is the most widely used measure of personality dispositions and preferences. It is based on Carl Jung's theory of perception and judgment, and the attitudes in which these are used in different

types of people. Suitable for upper elementary through adult ages, the MBTI provides four bipolar scales that can be reported as continuous scores or reduced to a four-letter code or "type." Descriptions of the types are easily understood and useful in self-exploration.

The MBTI scales indicate relevant preference for:

Extraversion-Introversion (EI):

The EI index is designed to reflect whether a person is oriented primarily toward the outer world (E) or toward the inner world of ideas (I).

Sensing-Intuition (SN):

The SN index describes an interest in perceiving the objects, events, and details of the present moment (S) or the possibilities, abstractions, and insights imagined in the future (N).

Thinking-Feeling (TF):

The TF index describes a preference for making rational judgments by using objective and logical analysis (T) or by weighing the relative person-centered values (F).

Judging-Perceiving (JP):

The JP index describes a preference for organizing and controlling events of the outside world (J) or for observing and understanding such events (P).

The various combinations of these preferences result in 16 personality types.

The MBTI is completely self-administering. All necessary instructions are given on the cover of the test book-

lets and on the response sheets. It must, however, be administered and scored by a qualified person as approved by the Center for Applications of Psychological Type.

The MBTI is not a timed test. The reading level is seventh grade. It is an appropriate instrument for ages twelve through adult.

Its benefits include:

1. used widely
2. researched extensively
3. easy to administer
4. nonthreatening format
5. meaningful results

Its educational uses are as follows:

1. understand individual learning styles
2. identify differences in motivation for learning
3. develop teaching methods and evaluation tools
4. analyze and improve curricula

All construct and criterion-related validity; internal consistency and test-retest reliability estimates are reported in the MBTI manual.

#### Preparation of the Demographic Instrument

Preparation of the Demographic Questionnaire which accompanied the MBTI Form G was based on similar forms currently required of all GED candidates and formulated in Analysis of ABE Annual Performance Report (Blue Goose). It is on file for all adult basic education students. A cover letter (Appendix A) and informed consent form

(Appendix B) were given to all participants and kept on file to ensure understanding by the participant and confidentiality of the study.

Other procedures included in its preparation were:

1. a review of literature
2. informal interviews with representatives of the Iowa Department of Education and coordinators of Adult Basic Education programs in Iowa
3. printing of the questionnaire and collection of relevant data (Appendix C)

#### Collection of Data

The following procedure was used in the collection of data for this study.

1. The instructors at the Iowa Western Adult Learning Center were given the MBTI and had a basic course in the interpretation and use of the instrument.
2. The coordinator of the Adult Learning Center was contacted and requested to participate in the study. The nature of the study was explained.
3. Participant Consent Forms were developed.
4. The MBTI Form G and the Demographic Questionnaire were administered to fifty-eight adult basic education students.
5. Answer sheets were hand scored by Marie Elkin.
6. Information packets were developed containing a description of appropriate type (Appendix D), a Myers-Briggs



Report Form (Appendix E), and a page containing characteristics frequently associated with type (Appendix F).

7. MBTI scores and information packets were delivered to the Adult Learning Center and distributed during a session overviewing the MBTI.

8. Information on temperaments will be distributed at the February, 1992 workshop for teachers (Appendix G and H).

#### Analysis of Data

Data were obtained from two sources: the MBTI Form G and the Demographic Questionnaire. All information was processed by computer at Iowa Western Community College, Council Bluffs, Iowa.

Absolute, relative, adjusted, and cumulative frequencies were calculated.

The Statistical Package for Social Sciences (SPSSX) program was utilized. It employs Chi-square to determine if sample means differed significantly.

## CHAPTER IV

### ANALYSIS OF THE DATA

#### Introduction and Organizational Statements

The most important task in the presentation of these findings is to identify and interpret the results of the survey and to give pertinent data to those objectives given in Chapter I of this text.

It is also necessary to consider that research is an ongoing process and what needs to be formulated here is the major significance this thesis contributes to the betterment and facilitation of learning of the adult basic education student.

Before the questions can be fully answered, attention must be given to the demographics of this survey.

#### Survey Demographics

From the fifty-eight (58) responses, the following general information was gained:

Fifty-one (51) or 88% of the participants were non high school graduates. Fifty-five (55) or 95% were reading below the eighth grade level.

Nineteen (19) or 33% needed the Myers-Briggs survey instrument read to them because of poor reading skills.

Fifty-eight (58) or 100% of the respondents did not challenge the accuracy of their type.

Fifty-seven (57) or 98% of the respondents had not previously taken the MBTI and had no knowledge of type theory.

Of the fifty-eight (58) respondents, ten (10) or 18% showed a preference for ISTJ, thirteen (13) or 23% showed a preference for ISTP, one (1) or 1% showed a preference for ESTP, three (3) or 5% showed a preference for ESTJ, three (3) or 5% showed a preference for ISFJ, eleven (11) or 19% showed a preference for ISFP, two (2) or 3% showed a preference for ESFP, one (1) or 1% showed a preference for ESFJ, none (0) or 0% showed a preference for INFJ, three (3) or 5% showed a preference for INFP, three (3) or 5% showed a preference for ENFP, none (0) or 0% showed a preference for ENFJ, none (0) or 0% showed a preference for INTJ, five (5) or 9% showed a preference for INTP, three (3) or 5% showed a preference for ENTP, and none (0) or 0% showed a preference for ENTJ (Table 1).

Table 1

A personality profile using the MBTI type table to describe preferences of the adult basic education students (N58).

Row Number Row Percent					Row Total
	ISTJ	ISFJ	INFJ	INTJ	
Number	10	3	0	0	13
Percent	18%	5%	0%	0%	23%
	ISTP	ISFP	INFP	INTP	
Number	13	11	3	5	32
Percent	23%	19%	5%	9%	56%
	ESTP	ESFP	ENFP	ENTJ	
Number	1	2	3	3	9
Percent	1%	3%	5%	5%	14%
	ESTJ	ESFJ	ENFJ	ENTP	
Number	3	1	0	0	4
Percent	5%	1%	0%	0%	6%
Column Total	21 47%	17 28%	6 10%	8 14%	= 58 = 99%

Note: All percentages are calculated to the nearest whole number.

When the polarities were considered, thirteen (13) or 22% showed a preference for extraversion, twenty-five (25) or 78% showed a preference for introversion, fourteen (14) or 24% showed a preference for intuition, thirty-four (34) or 76% showed a preference for sensing, thirty-five (35) or 60% showed a preference for thinking, and twenty-three (23) or 40% showed a preference for feeling. Seventeen (17) or 30% showed a preference for judgment and forty-one (41) or 70% showed a preference for perception (Table 2).

Table 2

A personality profile using the four preference polarities to describe Iowa Western Community College adult basic education students (N58).

				Row Total
E		I		
	22% 13		78% 25	100%
S		N		
	70% 14		30% 34	100%
T		F		
	60% 35		40% 23	100%
J		P		
	30% 17		70% 41	100%

Note: Percentages are calculated to the next highest whole number.

Temperament groupings by number were as follows:

Seventeen (17) or 29% showed a preference for SJ (sensing-judgment), twenty-seven (27) or 47% showed a preference for SP (sensing-perception), six (6) or 10% showed a preference for intuitive-feeling (NF), and eight (8) or 14% showed a preference for NT (intuitive-thinking) (Table 3).

Table 3

A personality profile using Kiersey's temperament table to describe preferences of the Iowa Western Community College adult basic education student (N58).

Row Number Row Percent			Row Total
	NF	SJ	
Number	6	17	23
Percent	10%	29%	39%
	NT	SP	
Number	8	27	35
Percent	14%	47%	61%
Column	14	44	= 58
Total	24%	76%	= 100%

Note: Percentages are calculated to the next highest whole number.

Comparisons by percentage of this data to that of the general population (question 1) were used because of the small sample size.

All data relevant to the questions 2-8 were obtained by utilizing the four temperaments. This provided adequate sample cell size to facilitate statistical calculation using the Chi-square Test of Significance.

#### Findings Related to the Question

Question 1: Is there a difference between personality type preferences of adult basic education students and those of the general population as measured by the MBTI?

Data obtained concerning this question can be obtained from many sources. Basic calculations used to describe the general population and used for personality profiles in

workshops and nonstatistical publications provide the following information. Most often these references quote or allude to the work of David Kiersey for these percentages in type and temperament (Jeffries, 1991).

ISTJs are 6% of the general population; ISTPs are 6%; ESTPs are 13%; ESTJs are 13%; ISFJs are 6%; ISFPs are 6%; ESFPs are 13%; ESFJs are 13%; INFJs are 1%; INFPs are 1%; ENFPs are 5%; ENFJs are 5%; INTJs are 1%; INTPs are 1%; ENTPs are 5%; and ENTJs are 5% (Table 4).

Table 4

A personality profile of adult basic education students compared to the general population utilizing MBTI type theory.

General Population Adult Basic Ed. Population					Row Total
	ISTJ	ISFJ	INFJ	INTJ	
Gen. Pop.	6%	6%	1%	1%	14%
ABE Pop.	18%	5%	0%	0%	23%
	ISTP	ISFP	INFP	INTP	
Gen. Pop.	6%	6%	1%	1%	14%
ABE Pop.	23%	19%	5%	9%	46%
	ESTP	ESFP	ENFP	ENTP	
Gen. Pop.	13%	13%	5%	5%	36%
ABE Pop.	1%	3%	5%	5%	14%
	ESTJ	ESFJ	ENFJ	ENTJ	
Gen. Pop.	13%	13%	5%	5%	36%
ABE Pop.	5%	1%	0%	0%	6%
Column Total	38%	38%	12%	12%	= 100%
	47%	28%	10%	14%	= 99%

Note: Percentages are calculated to the next highest whole number.

Extraverts (E) are 70% of the general population; introverts (I) are 30%; sensors (S) are 70%; intuitives (N) are 30%; thinkers (T) are 50%; feelers (F) are 50%; judgers (J) are 55%; and perceptives (P) are 45% (Table 5).

Table 5

A personality profile of adult basic education students compared to the general population utilizing MBTI polarities.

General Population Adult Basic Ed. Population			Row Total
	E	I	
Gen. Pop.	70%	30%	100%
ABE Pop.	22%	78%	100%
	S	N	
Gen. Pop.	70%	30%	100%
ABE Pop.	76%	24%	100%
	T	F	
Gen. Pop.	50%	50%	100%
ABE Pop.	60%	40%	100%
	J	P	
Gen. Pop.	55%	45%	100%
ABE Pop.	30%	70%	100%

Note: Percentages are calculated to the next highest number.

Intuitive feelers are 12% of the general population; intuitive thinkers are 14%; sensing judgers are 38%; and sensing perceptives are 38% (Table 6).



Table 6

A personality profile of adult basic education students compared to the general population utilizing temperament theory.

General Population Adult Basic Ed. Population	Row Total		
	NF	SJ	
Gen. Pop.	12%	38%	50%
ABE Pop.	10%	29%	39%
	NT	SP	
Gen. Pop.	12%	38%	50%
ABE Pop.	14%	47%	61%

Note: Percentages are calculated to the next highest number.

An examination of these figures shows a greater number (at least a difference of 8%) of ISTJs (14% difference), ISTPs (17% difference), ISFPs (13% difference), and INTPs (8% difference) in the adult basic education population as compared to the general population (Table 4).

There were more introverts (48% difference) and more perceptives (70% difference) when adult basic education students were compared to the general population (Table 5).

When temperament is examined, figures indicate a lesser number of SJs (9% difference) and a greater number of SPs (9% difference) (Table 6).

These percentages also showed that a lesser number (at least an 8% difference) of ESTPs (12% difference), ESTJs (8% difference), ESFPs (10% difference), and ESFJs (12% differ-

ence) are in the adult basic education population as compared to the general population (Table 4).

There were less extraverts (40% difference) and less judges (35% difference) when adult basic education students were compared to the general population (Table 5).

Therefore, it can be seen when all factors of personality type are considered that there are differences in preferences of adult basic education students and the general population.

This supports the hypothesis.

Question 2: Is there a difference between the adult basic education student reading below or at the fourth grade level and those reading above the fourth grade level as to personality type preference as measured on the MBTI?

Data obtained concerning this question show that there are 19 respondents reading below the fourth grade level (Level 1) and 39 respondents reading above the fourth grade level (Level 2) who completed the demographic questionnaire. The total number of valid cases is 58.

There are no missing cases, so the relative and adjusted frequency is the same for Level 1 respondents (32.8) and Level 2 respondents (67.2). The mean is 1.672. The median is 1.756. The mode is 2.000. The standard error is 0.062. The standard deviation is 0.473. The variance is 0.224. The range is 1.000 (Table 7).

Table 7

A statistical profile showing the frequencies of adult basic education students reading below the fourth grade level (Level 1) and those reading above the fourth grade level (Level 2).

	Absolute Freq	Relative Freq (Pct)	Adjusted Freq (Pct)	Cumulative Freq (Pct)
Level 1	19	32.8	32.8	32.8
Level 2	39	67.2	67.2	100.0
Total	58	100.0	100.0	

Three out of eight (37.5%) of the valid cells have a frequency of less than 5. The minimum expected cell frequency is 1.966.

The total percentage of Level 1 respondents preferring SJ is 8.6. The total percentage of Level 2 respondents preferring SJ is 20.7. All those preferring SJ totaled 29.3% or 17 respondents.

The total percentage of Level 1 respondents preferring SP is 17.2. The total percentage of Level 2 respondents preferring SP is 29.3. All those preferring SP totaled 46.6% or 27 respondents. (Percentages are rounded to the nearest tenth.)

The total percentage of Level 1 respondents preferring NF is 0.0. The total percentage of Level 2 respondents preferring NF is 10.3. All those preferring NF totaled 10.3% or 6 respondents.

The total percentage of Level 1 respondents preferring NT is 6.9. The total percentage of Level 2 respondents preferring NT is 6.9. All those preferring NT totaled 13.8% or 8 respondents.

The value of Chi-square is 4.31352 with three degrees of freedom. The significance level is 0.2295 which is outside the accepted level for the .05 (Table 8).

Table 8

A psychological profile of adult basic education students reading below the fourth grade level (Level 1) to those reading above the fourth grade level (Level 2).

Count Row Pct Column Pct Total Pct	SJ	SP	NF	NT	Row Total
Level 1	5 26.3 29.4 8.6	10 52.6 37.0 17.2	0 0.0 0.0 0.0	4 21.1 50.0 6.9	19 32.8
Level 2	12 30.8 70.6 20.7	17 43.6 63.0 29.3	6 15.4 100.0 10.3	4 10.3 50.0 6.9	39 67.2
Column Total	17 29.3	27 46.6	6 10.3	8 13.8	58 100.0

This indicates that there is no significant difference in personality preference between Level 1 respondents and Level 2 respondents. This supports the hypothesis.

Question 3: Is there a difference between adult basic education male and female students' personality type preferences as measured on the MBTI?

Data obtained concerning this question showed that there are 18 males and 40 females who completed the demographic questionnaire. The total number of valid cases is 58.

There are no missing cases, so the relative and adjusted frequency is the same: 31.0 for males and 69.0 for females. The mean is 1.690. The median is 1.775. The mode is 2.000. The standard error is 0.061. The standard deviation is 0.467. The variance is 0.218. The range is 1.000 (Table 9).

Table 9

A statistical profile showing the frequencies in comparing adult basic education males and females.

Category Label	Absolute Freq	Relative Freq (Pct)	Adjusted Freq (Pct)	Cumulative Freq (Pct)
Male	18	31.0	31.0	31.0
Female	40	69.0	69.0	100.0
Total	58	100.0	100.0	

Three out of eight (37.5%) of the valid cells have a frequency of less than 5. The minimum expected cell frequency is 1.862.

The total percentage of males preferring SJ is 8.6. The total percentage of females preferring SJ is 20.7. All those preferring SJ totaled 29.3% or 17 respondents.

The total percentage of males preferring SP is 12.1.  
 The total percentage of females preferring SP is 34.5.  
 All those preferring SP totaled 46.6% or 27 respondents.

The total percentage of males preferring NF is 1.7.  
 The total percentage of females preferring NF is 8.6. All  
 those preferring NF totaled 10.3% or 6 respondents.

The total percentage of males preferring NT is 8.6.  
 The total percentage of females preferring NT is 5.2. All  
 those preferring NT totaled 13.8% or 8 respondents.

The value of Chi-square is 4.62953 with three degrees  
 of freedom. The significance level is 0.2010 which is out-  
 side the accepted level for the .05 (Table 10).

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Table 10

A psychological profile of adult basic education male  
 and female students.

Count Row Pct Column Pct Total Pct	SJ	SP	NF	NT	Row Total
Male	5	7	1	5	18
	27.8	38.9	5.6	27.8	31.0
	29.4	25.9	16.7	62.5	
	8.6	12.1	1.7	8.6	
Female	12	20	5	3	40
	30.0	50.0	12.5	7.5	69.0
	70.6	74.1	83.3	37.5	
	20.7	34.5	8.6	5.2	
Column Total	17	27	6	8	58
	29.3	46.6	10.3	13.8	100.0

This indicates that there is no significant difference in personality preference between males and females. This supports the hypothesis.

Question 4: Is there a difference between reasons adult basic education students returned to school and personality type preference as measured on the MBTI?

Data obtained concerning this question showed that there are 12 respondents returning to school because of employment reasons, 25 respondents returning to school to further their education, and 9 respondents returning to school (adult basic education classes) for personal satisfaction who completed the demographic questionnaire. The total number of valid cases is 46. Classifications of employment, job promotion, military and other were collapsed to create greater cell samples since all these are job related. Percentages are rounded to the nearest tenth.

There are 12 missing cases so the adjusted frequency is 26.1 for those returning because of employment, 54.1 for those returning for further education, and 19.6 for those returning for personal satisfaction. The mean is 1.935. The median is 1.940. The mode is 2.000. The standard error is 0.100. The standard deviation is 0.680. The variance is 0.462. The range is 2.000 (Table 11).

Table 11

A statistical profile showing the frequencies in comparing adult basic education students who returned to school because of employment reasons and those who returned to further their education.

Category Label	Absolute Freq	Relative Freq (Pct)	Adjusted Freq (Pct)	Cumulative Freq (Pct)
Employment	12	20.7	26.1	26.1
Further Education	25	43.1	54.3	80.4
Personal Satisfaction	9	15.5	19.6	100.0
Missing Cases	12	20.7	Missing	100.0
Total	58	100.0	100.0	

Nine out of twelve (75.0%) of the valid cells have a frequency of less than 5. The minimum expected cell frequency is 0.978.

The total percentage of those returning to school for employment reasons who prefer SJ is 4.3. The total percentage of those returning to school for further education who prefer SJ is 17.4. The total percentage of those returning to school for personal satisfaction who prefer SJ is 10.9. All those preferring SJ totaled 32.6% or 15 respondents.

The total percentage of those returning to school for employment reasons who prefer SP is 15.2. The total percentage of those returning to school to further their education who prefer SP is 23.9. The total percentage of those returning to school for personal satisfaction pre-



ferring SP is 4.3. All those preferring SP totaled 43.5% or 20 respondents.

The total percentage of those returning to school for employment reasons who prefer NF is 0.0. The total percentage of those returning to school to further their education who prefer NF is 8.7. The total percentage of those returning to school for personal satisfaction who prefer NF is 2.2. All those preferring NF totaled 10.9% or 5 respondents.

The total percentage of those returning to school for employment reasons who prefer NT is 6.5. The total percentage of those returning to school to further their education who prefer NT is 4.3. The total percentage of those returning to school for personal satisfaction who prefer NT is 2.2. All those preferring NT totaled 13.0% or 6 respondents.

The value of Chi-square is 7.67603 with six degrees of freedom. The significance level is 0.2628 which is outside the accepted level for the .05 (Table 12).

Table 12

A psychological profile of adult basic education students who returned to school because of employment and those who returned to further their education.

Count Row Pct Column Pct Total Pct	SJ	SP	NF	NT	Row Total
Employment	2	7	0	3	12
	16.7	58.3	0.0	25.0	26.1
	13.3	35.0	0.0	50.0	
	4.3	15.2	0.0	6.5	
Further Education	8	11	4	2	25
	32.0	44.0	16.0	8.0	54.3
	53.3	55.0	80.0	33.3	
	17.4	23.9	8.7	4.3	
Personal Satisfaction	5	2	1	1	9
	55.6	22.2	11.1	11.1	19.6
	33.3	10.0	20.0	16.7	
	10.9	4.3	2.2	2.2	
Column Total	15	20	5	6	46
	32.6	43.5	10.9	13.0	100.0

This indicates that there is no significant difference in personality preference between those returning to school for reasons of employment, further education, or personal satisfaction. This supports the hypothesis.

Question 5: Is there a difference between adult basic education students' referral source and their personality type preference as measured on the MBTI?

Data obtained concerning this question showed that there are 31 respondents who were referred by others to adult basic education classes and 25 respondents referred themselves to adult basic education classes who completed

the demographic questionnaire. The total number of respondents was 56. Percentages are rounded to the nearest tenth.

There are two missing cases so the adjusted frequency is 55.4 for those referred by others and 44.6 for those who referred themselves. The mean is 1.446. The median is 1.403. The mode is 1.000. The standard error is 0.067. The standard deviation is 0.502. The variance is 0.252. The range is 1.000 (Table 13).

Table 13

A statistical profile showing the frequencies in comparing adult basic education students who were referred by others and those who referred themselves.

Category Label	Absolute Freq	Relative Freq (Pct)	Adjusted Freq (Pct)	Cumulative Freq (Pct)
Referred by Others	31	53.4	55.4	55.4
Referred by Self	25	43.1	44.6	100.0
Missing Cases	2	3.4	Missing	100.0
Total	58	100.0	100.0	

Four out of eight (50.0%) of the valid cells have a frequency of less than 5. The minimum expected cell frequency is 2.679.

The total percentage of those referred by others who prefer SJ is 14.3. The total percentage of those who referred themselves who prefer SJ is 12.5. All those preferring SJ totaled 26.8% or 15 respondents.

The total percentage of those referred by others who prefer SP is 30.4. The total percentage of those who referred themselves who prefer SP is 17.9. All those preferring SP totaled 48.2% or 27 respondents.

The total percentage of those referred by others who prefer NF is 3.6. The total percentage of those who referred themselves who prefer NF is 7.1. All those preferring NF totaled 10.7% or 6 respondents.

The total percentage of those referred by others who prefer NT is 7.1. The total percentage of those who referred themselves who prefer NT is 7.1. All those preferring NT totaled 14.3% or 8 respondents.

The value of Chi-square is 1.92742 with three degrees of freedom. The significance level is 0.5876 which is outside the accepted level for the .05 (Table 14).

Table 14

A psychological profile of adult basic education students who were referred by others and those who referred themselves.

Count Row Pct Column Pct Total Pct	SJ	SP	NF	NT	Row Total
Referred by Others	8 25.8 53.3 14.3	17 54.8 63.0 30.4	2 6.5 33.3 3.6	4 12.9 50.0 7.1	31 55.4
Referred by Self	7 28.0 46.7 12.5	10 40.0 37.0 17.9	4 16.0 66.7 7.1	4 16.0 50.0 7.1	25 44.6
Column Total	15 26.8	27 48.2	6 10.7	8 14.3	56 100.0

This indicates that there is no significant difference in personality preference between those respondents who were referred by others to adult basic education classes and those who referred themselves. This supports the hypothesis.

Question 6: Is there a difference between the reason for the adult basic education student dropping out of traditional school and personality type preference as measured on the MBTI?

Data obtained concerning this question showed that there are 31 respondents who listed personal reasons for leaving public or private education and 20 respondents who listed school problems as reasons for leaving formal schooling who completed the demographic questionnaire.

The total number of valid cases is 51. The responses of personal reasons and work to support self and others were combined to give greater cell samples. The responses of not doing well in school and did not like school were also combined to give greater cell samples.

There are seven missing cases so the adjusted frequency is 60.8 for those who listed personal reasons for leaving formal schooling and 39.2 for those who listed school problems as a reason for leaving formal schooling. The mean is 1.392. The median is 1.323. The mode is 1.000. The standard error is 0.069. The standard deviation is 0.493. The variance is 0.243. The range is 1.000 (Table 15).

Table 15

A statistical profile showing the frequencies in comparing adult basic education students who listed personal reasons for leaving formal schooling and those who listed school problems.

Category Label	Absolute Freq	Relative Freq (Pct)	Adjusted Freq (Pct)	Cumulative Freq (Pct)
Personal Reasons	31	53.4	60.8	60.8
School Problems	20	34.5	39.2	100.0
Missing Cases	7	12.1	Missing	100.0
Total	58	100.0	100.0	

Four out of eight (50.0%) of the valid cells have a frequency of less than 5. The minimum expected cell frequency is 1.961.

The total percentage of those who listed personal reasons for leaving formal schooling who prefer SJ is 13.7. The total percentage of those who listed school problems as a reason for leaving formal schooling who prefer SJ is 11.8. All those preferring SJ totaled 25.5% or 13 respondents.

The total percentage of those who listed personal reasons for leaving formal schooling who prefer SP is 35.3. The total percentage of those who listed school problems as a reason for leaving formal schooling who prefer SP is 15.7. All those preferring SP totaled 51.0% or 26 respondents.

The total percentage of those who listed personal reasons for leaving formal schooling who prefer NF is 5.9. The total percentage of those who listed school problems as a reason for leaving formal schooling who prefer NF is 3.9. All those preferring NF totaled 9.8% or 5 respondents.

The total percentage of those who listed personal reasons for leaving formal schooling who prefer NT is 5.9. The total percentage of those who listed school problems as a reason for leaving formal schooling who prefer NT is 7.8. All those preferring NT totaled 13.7% or 7 respondents.

The value of Chi-square is 1.98576 with three degrees of freedom. The significance level is 0.5754 which is outside the accepted level for the .05 (Table 16).

Table 16

A psychological profile of adult basic education students who listed personal reasons for leaving formal schooling and those who listed school problems.

Count Row Pct Column Pct Total Pct	SJ	SP	NF	NT	Row Total
Personal Reasons	7 22.6 53.8 13.7	18 58.1 69.2 35.3	3 9.7 60.0 5.9	3 9.7 42.9 5.9	31 60.8
School Problems	6 30.0 46.2 11.8	8 40.0 30.8 15.7	2 10.0 40.0 3.9	4 20.0 57.1 7.8	20 39.2
Column Total	13 25.5	26 51.0	5 9.8	7 13.7	51 100.0

This indicates that there is no significant difference in personality preference between those who left formal schooling for personal reasons and those who listed school problems. This supports the hypothesis.

Question 7: Is there a difference between age of adult basic education students and personality type preference as measured on the MBTI?

Data obtained concerning this question showed that there are 34 respondents ages 15-29 and 24 respondents ages 30-60+ who completed the demographic questionnaire. The total number of valid cases is 58. Age groups ranging from 15-29 and 30-60+ were collapsed in order to provide larger cell samples.



There are no missing cases so the relative and adjusted frequency is the same: 58.6 for those ages 15-29 and 41.4 for those ages 30-60+. The mean is 1.414. The median is 1.353. The mode is 1.000. The standard error is 0.065. The standard deviation is 0.497. The variance is 0.247. The range is 1.000 (Table 17).

Table 17

A statistical profile showing the frequencies in comparing adult basic education students who are ages 15-29 and those who are ages 30-60+.

Category Label	Absolute Freq	Relative Freq (Pct)	Adjusted Freq (Pct)	Cumulative Freq (Pct)
Ages 15-29	34	58.6	58.6	58.6
Ages 30-60+	24	41.4	41.4	100.0
Total	58	100.0	100.0	

Four out of eight (50.0%) of the valid cells have a frequency of less than 5. The minimum expected cell frequency is 2.483.

The total percentage of those ages 15-29 preferring SJ is 13.8. The total percentage of those ages 30-60+ preferring SJ is 15.5. All those preferring SJ totaled 29.3% or 17 respondents.

The total percentage of those ages 15-29 preferring SP is 27.6. The total percentage of those ages 30-60+ preferring SP is 19.0. All those preferring SP totaled 46.6% or 27 respondents.

The total percentage of those ages 15-29 preferring NF is 8.6. The total percentage of those ages 30-60+ preferring NF is 1.7. All those preferring NF totaled 10.3% or 6 respondents.

The total percentage of those ages 15-29 preferring NT is 8.6. The total percentage of those ages 30-60+ preferring NT is 5.2. All those preferring NT totaled 13.8% or 8 respondents.

The value of Chi-square is 2.50164 with three degrees of freedom. The significance level is 0.4750 which is outside the accepted level for the .05 (Table 18).

Table 18

A psychological profile of adult basic education students who are ages 15-29 and those who are ages 30-60+.

Count Row Pct Column Pct Total Pct	SJ	SP	NF	NT	Row Total
Ages 15-29	8 23.5 47.1 13.8	16 47.1 59.3 27.6	5 14.7 83.3 8.6	5 14.7 62.5 8.6	34 58.6
Ages 30-60+	9 37.5 52.9 15.5	11 45.8 40.7 19.0	1 4.2 16.7 1.7	3 12.5 37.5 5.2	24 41.4
Column Total	17 29.3	27 46.6	6 10.3	8 13.8	58 100.0

This indicates that there is no significant difference in personality preference between those respondents who are

ages 15-29 and those respondents who are ages 30-60+. This supports the hypothesis.

Question 8: Is there a difference between the preferred method of instruction and personality type preference as measured on the MBTI?

Data obtained concerning this question showed that 0 preferred lecture for instruction, 29 preferred a combination of ways for instruction, and 25 preferred individualized instruction of those who completed the demographic questionnaire. The total number of valid cases is 54. Since lecture was not a preferred method of teaching no further data is given. In order to provide a greater cell sample; discussion, combination of ways, and working in groups were collapsed. All percentages are rounded to the nearest tenth.

Since there are four missing cases the adjusted frequency is 53.7 for those preferring a combination of ways of instruction and 46.3 for those who preferred individualized instruction. The mean is 2.463. The median is 2.431. The mode is 2.000. The standard error is 0.068. The standard deviation is 0.503. The variance is 0.253. The range is 1.000 (Table 19).

Table 19

A statistical profile showing the frequencies in comparing adult basic education students who preferred lecture, a combination of ways, or individualized instruction.

Category Label	Absolute Freq	Relative Freq (Pct)	Adjusted Freq (Pct)	Cumulative Freq (Pct)
Lecture	0	00.0	00.0	00.0
Combination of Ways	29	50.0	53.7	53.7
Individualized	25	43.1	46.3	100.0
Missing Cases	4	6.9	Missing	100.0
Total	58	100.0	100.0	

Four out of eight (50.0%) of the valid cells have a frequency of less than 5. The minimum expected cell frequency is 2.778.

The total percentage of those who listed a combination of ways of instruction who prefer SJ is 16.7. The total percentage of those who listed individualized instruction who prefer SJ is 11.1. All those preferring SJ totaled 27.8% or 15 respondents.

The total percentage of those who listed a combination of ways of instruction who prefer SP is 24.1. The total percentage of those who listed individualized instruction who prefer SP is 24.1. All those preferring SP totaled 48.1% or 26 respondents.

The total percentage of those who listed a combination of ways of instruction who prefer NF is 5.6. The total

percentage of those who listed individualized instruction who prefer NF is 5.6. All those preferring NF totaled 11.1% or 6 respondents.

The total percentage of those who listed a combination of ways of instruction who prefer NT is 7.4. The total percentage of those who listed individualized instruction who prefer NT is 5.6. All those preferring NT totaled 13.0% or 7 respondents.

The value of Chi-square is 0.44902 with three degrees of freedom. The significance level is 0.9299 which is outside the accepted level for the .05 (Table 20).

Table 20

A psychological profile of adult basic education students who preferred lecture, a combination of ways, or individualized instruction.

Count Row Pct Column Pct Total Pct	SJ	SP	NF	NT	Row Total
Lecture	0 00.0 00.0 00.0	0 00.0 00.0 00.0	0 00.0 00.0 00.0	0 00.0 00.0 00.0	0 00.0 00.0 00.0
Combination of Ways	9 31.0 60.0 16.7	13 44.8 50.0 24.1	3 10.3 50.0 5.6	4 13.8 57.1 7.4	29 53.7
Individu- alized	6 24.0 40.0 11.1	13 52.0 50.0 24.1	3 12.0 50.0 5.6	3 12.0 42.9 5.6	25 46.3
Column Total	15 27.8	26 48.1	6 11.1	7 13.0	54 100.0

This indicates that there is no significant difference in personality preference between preferred methods of instruction. This supports the hypothesis.

#### Summary of Tables

The tables used in this text were designed to give accurate data as well as to provide information which would be understood and have practical uses for the adult basic education instructors. Percentages were always indicated because, although not as statistically accurate, they are the mathematical calculation most often sought by instructors.

These tables showed support for the hypothesis that the adult basic education student does differ from the general population but there are few variances or factors which separate them from each other.

These tables also support the fact that different teaching techniques need to be used in adult basic education classes and learning centers than those commonly practiced in classes sought by the general population.

A workshop entitled "Learning and Teaching Styles: How One Teaches How Others Learn" will be presented to Iowa Western Community College Adult Basic Education instructors in February 1992. These findings will be included in that workshop.

## CHAPTER V

### SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

#### Introduction

Adult basic education students who are currently enrolled in the Adult Learning Center of Iowa Western Community College completed a demographic questionnaire developed from a demographic survey currently in use in collecting data from Iowa adult basic education students. They also completed Form G of the Myers-Briggs Type Indicator (MBTI).

The results were calculated by using the computer program Statistical Package for Social Sciences (SPSSX) in order to facilitate recommendations for teaching methods to be used with adult basic education students. The results of the statistical analysis are presented in Chapter IV along with mathematical calculations comparing adult basic education students to the general population.

This chapter will discuss those results and provide recommendations for teaching techniques, program planning, and additional research.

#### Summary of Findings

As stated in other studies by Lawrence, Golay, and Giovannoni, a positive relationship does exist between sensing and sensing-perceiving personality styles and youth at risk. Youth at risk become adult basic education students

when they drop out of school and then return for an adult basic education class or to seek a high school equivalency diploma. This study also points to the fact that persons who prefer perception, especially sensing perception, are enrolled in adult basic education.

The following is a discussion of each of the polarities and their relevance to the adult basic education student.

1. Extraversion-Introversion: As can be seen in this study, extraverts represented only 22% of the adult basic education students and introverts represented 78%. It is known that introverts often have trouble speaking out in groups and that they need time alone. They are good at one-to-one interaction. This may account for the fact that many ABE teachers and students like individualized instruction.

2. Sensing-Intuition: Sensing represented 76% of the participants and 24% preferred intuition. This is to be expected because of the high percentage of persons in the general population who preferred sensing. Also sensing types need step by step instruction and concrete learning experiences. If because of problems or other factors sensing types miss school, they may fall behind in their studies and eventually drop out.

3. Thinking-Feeling: Feeling types often wish to please others and may be more likely to stay in school. They also would be less likely to create friction by speaking out or offering an opinion different from the norm.



Thinking types, which represented 60% of this study, are driven by what they believe is right even if the price is being removed from school or being disliked. Because of this behavior, thinking types are often unwilling to conform and will eventually drop out of school. This is especially true of thinking perceptives. They are likely to try to complete their education when their experience shows that they need it to "get a job" or "earn a living."

4. Judging-Perceptive: A major factor in the completion of formal schooling by any student has to do with the ability to adjust to concrete and structured time frames and structured lessons and learning. Since perceptives prefer nonstructure it is not surprising that 70% of the adult basic education students preferred perception. Adult learning centers and night classes are less formal and do not demand attendance. Unlike other schooling they are free to "work at their own pace" and to come and go as they wish. Those who prefer judging, on the other hand, ask for assignments and will almost always stay with a task until its completion.

#### Recommendations

Based on this research and the implications of those findings, the following recommendations are given to assist directors, coordinators, and teachers in providing a program which minimizes the probability of failing often found in the past experience of the adult basic education student.

These recommendations are guidelines and can be expanded and updated as more is known about the preferences of any student. They also are designed to create an effective and positive method of incorporating personality type preference into the classroom.

Directors and coordinators should consider the following when planning programs:

1. Know and understand your own personality preference and how it effects the decisions you make.
2. Plan programs which can be easily changed and updated and which present alternatives and options.
3. Select a team of teachers who have a variety of personality preferences.
4. Provide teachers with staff development in personality type preference.
5. Provide staff development programs which present and show methods of presenting curriculum.
6. Locate ABE programs in various centers away from formal school buildings.
7. Offer programs at a variety of times and keep programs open as many hours as possible. Programs need to be available in both the day and evening hours.
8. Create a system of registration, breaks, etc., which allows the adult to move quickly through the process and facilitates the adult making choices about the time they commit to the program.

The following suggestions are for adult basic education teachers:

1. Become familiar with your own personality style.
2. Become acquainted with the theory of personality type preference.
3. Assess all adult basic education students to determine their learning style and/or their personality preference.
4. Have space available for quiet study and group interaction.
5. Avoid creating projects or lessons which require over one half hour on task.
6. Provide a variety of teaching techniques. These should include audio, visual, tactile, and kinesthetic.
7. Place more emphasis on tactile and kinesthetic learning than on audio and visual work.
8. Provide a chance for students to get to know other students through the use of class partners.
9. Match all tasks to learners.
10. Change and vary curriculum content as much as possible through offering a variety of books and/or teacher made materials.
11. Give positive feedback remembering that intuitive feelers like compliments about their attitudes, intuitive thinkers like compliments about their knowledge, sensing judgers like compliments about their compliance and dili-

gence to complete a task, and sensing perceptives like compliments about their physical involvement and competitiveness.

12. Utilize visuals which eventually call for student participation.

13. Let students experiment.

14. Avoid timed tests or questionnaires unless absolutely necessary for preparation to take the high school equivalency exam.

15. Do not require students to plan all activities. Planning should be required only when absolutely necessary.

16. Do not present lessons to students using the abstract. Give only concrete "here and now" reasons for study.

17. Remain enthusiastic and upbeat. Use a low key approach when listening to a student.

18. Assign very little homework. Encourage the student to assign projects to themselves.

19. Have some lessons "just for fun."

20. Have student led lessons.

21. Avoid close supervision of the student's work.

22. Continue to introduce new experiences and create an atmosphere of concrete change.

23. Do not use the lecture method of instruction.

24. Use a combination of methods of instruction.

Vary each lesson.

### Suggestions for Future Studies

Analysis of this research provides a variety of factors which could be considered for future investigation by those wishing to improve learning by adult basic education students.

Much work needs to be done to increase the number of participants in this study especially those who are reading below the fourth grade level. A state-wide project involving all sixteen Iowa area community colleges could produce a more clear picture of the adult basic education student.

All factors such as age, gender, student reading level, preferred method of instruction, etc., could be paralleled to those of the general population. Cross tabs on all data in the demographic survey could be analyzed.

A survey instrument focusing on current level of ability could be processed for both math and reading so that personality type preference could be noted in both of these areas.

Information is also needed on current instructional techniques which are in use and the effectiveness of these techniques with various students.

Studies concerning the use of audio tapes for the administering of the MBTI to the adult basic education students could be compared to data gained on those who took the indicator via reading it.

## Conclusions

This research was undertaken with the specific intent of identifying the personality type preference of students attending the Adult Learning Center in Council Bluffs, Iowa and to provide direction for coordinators and teachers working with adult basic education students.

Based on this study the following generalizations can be made:

1. There are more sensing perceptives in the adult basic education population than in the general population.
2. Adult basic education students have strong preferences for introversion.
3. Adult basic education students have strong preferences for perception.
4. The adult basic education student's personality profile closely compares with that of the public school "at risk" student.
5. Changes need to be made in current teaching methods in the adult basic education program from an almost total emphasis on individualized instruction to instruction which incorporates individualization with activities understood and enjoyed by perceptives.
6. Adult basic education students need to be motivated in ways not commonly used in the classroom, i.e., freedom to choose, freedom from personal lectures, etc.
7. Adult basic education students need to become comfortable with their personalities so they can develop their

inferior functions which coincide more readily with the "world of work."

8. Adult basic education teachers need to know how to observe personality characteristics and be knowledgeable in the utilization of teaching techniques.

Throughout this study, findings concurred with what is already known in type theory. Therefore, it can be seen that there is much to be gained by educators from increasing their knowledge of psychological type and from the incorporation of the MBTI with the current assessment program.

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## APPENDIX

Appendix A  
Letter to Participants

March 25, 1991

Dear Participant:

I am so pleased that you have helped the Adult Basic Education teachers and GED teachers understand more about you by agreeing to take the Myers Briggs Personality Indicator.

We want to improve our communication with you and better help you when we teach you.

In order to do this we need your permission to use your type in my study. Your name will not be used and your information will be added to others who are helping us by taking the MBTI and completing the client demographic form.

In order for this information to be used you need to sign the attached form.

Thanks again for helping me.

Sincerely,

Marie E. Elkin

Appendix B

Demographic Questionnaire

1. Name \_\_\_\_\_ or SS# \_\_\_\_\_  
Last First Middle Initial
2. Address \_\_\_\_\_  
Street  
City State Zip
3. Age Group \_\_\_\_\_ 15-17 \_\_\_\_\_ 30-39  
\_\_\_\_\_ 18-20 \_\_\_\_\_ 40-49  
\_\_\_\_\_ 21-24 \_\_\_\_\_ 50-59  
\_\_\_\_\_ 25-29 \_\_\_\_\_ 60 plus
4. Sex \_\_\_\_\_ male \_\_\_\_\_ female
5. Reason for returning to school (check one)  
\_\_\_\_\_  
employment \_\_\_\_\_ personal satisfaction  
\_\_\_\_\_  
further education \_\_\_\_\_ military  
\_\_\_\_\_  
job promotion \_\_\_\_\_ other
6. Initial referral to classes (check one)  
\_\_\_\_\_  
public service agency \_\_\_\_\_ employer  
\_\_\_\_\_  
military \_\_\_\_\_ self  
\_\_\_\_\_  
public school \_\_\_\_\_ other  
\_\_\_\_\_  
friend or relative
7. Reason for leaving formal education (public or private elementary or secondary school.) (Mark only one)  
\_\_\_\_\_  
personal reasons  
\_\_\_\_\_  
work to support self or others  
\_\_\_\_\_  
not doing well in school  
\_\_\_\_\_  
did not like school
8. Preferred method of instruction (check one)  
(How do you wish to be taught)  
\_\_\_\_\_  
lecture \_\_\_\_\_ individualized  
\_\_\_\_\_  
discussion \_\_\_\_\_ work in groups  
\_\_\_\_\_  
combination of ways
9. Level \_\_\_\_\_ (teacher completes)
10. Type \_\_\_\_\_ (tester completes)

Appendix C  
Participant Consent Form

I consent to participate in a study conducted by Marie Elkin as a thesis project for an Educational Specialist Degree at Drake University.

I agree to take the MBTI Form G and complete the Demographic Questionnaire.

I understand that information gained from these forms will be included with that of other students. My name will not be used.

\_\_\_\_\_  
Signature Date

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Appendix D

## Explanation of Type

## INFP

## Performing Noble Service to Aid Society

If there is a single word that defines this type, it is idealist. As introverted feelers, they discover their ideals through a subjective interpretation of the world, and put those ideals to use to help others in a variety of ways. They are often the "Joans (or Johns) of Arc" who seek fulfillment through performing noble service to aid society.

INFPs have their own self-imposed "codes" for life, and while they have little need to share or impose them on others, they can be very strict with themselves about following these regimens. But in general, INFPs tend to be easygoing and congenial. They would prefer to "fit in" harmoniously rather than to create waves--as long as they can do so without violating their ideals. Yet when others do trample on the INFPs' codes, INFPs can become very demanding and extremely aggressive, often to the surprise of both themselves and others. This tendency may be best illustrated by the mother who feels her child has been treated unjustly by his or her school. The normally quiet INFP mother leaves no stone unturned in full pursuit of rectifying the injustice and creating a better environment--not only for her child but others, who will also benefit from the change.

Male INFPs can be seen by others, particularly macho traditionalists, as too gentle, even wimpy. The INFPs' generally passive, live-and-let-live exterior, however admirable, may lack the take-charge quality often associated with maleness--until they feel that their value system is threatened, that is. Then, the easygoing ways (of male and female INFPs alike) can give way to harsh rigidity. For staff, friends, and mates who don't understand this characteristic, the INFP can seem, at best, a source of mixed signals; pliant one moment, rigid the next--and, at worst, a deep, complex, even somewhat melancholy person who is hard to understand. When a male INFP marries an extravert, society may view his mate as domineering and demanding. In actuality, for the marriage to succeed, the mate must quickly learn the limits of her mandate to take charge.

These very same qualities in an INFP female are more socially acceptable, even admired. While the INFP male's quiet stubbornness can make him seem simultaneously unforceful yet rigid, the INFP female may be respected for her

inner strength. Her determination conveys power and makes others feel secure.

INFPs resist being labeled and are often driven to do things that shake the way others view them. This can on occasion lead INFPs to be unpredictable, even outrageous. A docile INFP we know was invited to a staff costume party where guests were instructed to dress as "who you really are." She came as Madonna, the eccentric eighties rock singer, bedecked in jewelry and silky clothing. Her colleagues were shocked by her display but she wasn't.

Like all intuitive-feelers, the INFP strives for self-identity, self-knowledge, and self-definition. "Who am I?" is an all-important question. More so than all other NFs, however, the INFPs find in their preferences further material and inspiration for this never-ending quest. Their introversion fosters inward reflection, their intuition ensures an endlessly ramifying sense of the possibilities inherent in the self, their feeling guides them to reflect on how such potential could benefit both themselves and their relations with others, and their perceiving keeps them open to a constant flow of new data. It's not unusual for an INFP to get out of bed reflecting (introversion), "Who am I and where's my life going today?" There may be a number of possible answers (intuition)--"I'm a father," "I'm a mate," "I'm a teacher," and the like--as well as a consideration of how those attributes might be deployed in all interesting issues to contemplate. The INFP may then, in the search for more information (perceiving), set off for school or work, there to start the process again. Even if these questions are not consciously raised, the identity issues are always percolating. The INFP's reflective, open-ended approach to life produces far more questions than answers.

The INFP's home and work area may be rife with little piles of "to-dos"--reading, ironing, artwork, writing. These things will always be there. In fact, they will increase as the INFP's interests and concerns grow throughout life. It's helpful for INFPs to learn to live with this rather than punish themselves for seeming "failures." In general, home and family relationships are more relaxed than rigid; schedules are always subject to change because of others' immediate needs. Neatness often takes a backseat to interpersonal warmth and affirmation, except when company is expected, in which case perfection is the name of the game in the desire to serve others. INFPs prefer to give in to others rather than argue points that may lead to disharmony. Still, all of this may fly out the window if an INFP's "codes" are "violated," and then a relaxed home gives way to strict rules and schedules.



The same dynamic applies to parenting. An INFP parent may focus on a few carefully cultivated values. If these are respected, the INFP parent is typically easygoing and quick to meet a child's needs. In general, the INFP parent is positive and affirming and a child will find in that parent a friend in whom they can confide. If there are parenting weaknesses, they are probably related to INFPs' first preference, introversion: INFPs may be slow to give overt, positive strokes, not because they don't feel approval, but because they find it difficult to express; and to their last preference, perceiving, which may cause them to avoid providing the structure and organization that a child may need.

Introversion may also plague INFPs' relationships: they may feel far more love and warmth than they are able to express. In any relationship involving INFPs, there will be growth, affirmation, and self-fulfillment for both of the parties involved, but sometimes the combination of the introversion and feeling preferences causes them to avoid discussing issues that they fear may cause disagreement. For example, an INFP may, after much inner debate, conclude that some kind of change is necessary, and may then spring this conclusion on an unprepared partner. Thus, the INFP's decision to quit a job and go to graduate school (or convince the mate to do so) may be presented as a fait accompli, not a subject open for discussion, and the unsuspecting mate may be shocked into a new view of their relationship when a formerly pliant INFP shows new drive, determination, and rigidity, far out of proportion to the issue involved.

This INFP complexity, an easygoing exterior masking a compulsive interior, may make for inner stress. The result can be a variety of serious health problems: ileitis, colitis, and other stomach or intestinal problems. They may be particularly prone to such ailments when the needs of others prevent them from being able to relax and enjoy themselves. INFPs can easily make martyrs of themselves.

As children, INFPs' deceptively easygoing natures may cause others to take them for granted. INFP children have a high need to please parents--and be stroked for it. Generally, they are tender and sensitive to the world around them and, like their INFP elders, often give in to others at the expense of their own needs. If such self-sacrifice is not appreciated or, even worse, is criticized, the INFP child can become sullen, self-critical, often overpersonalizing each remark. The potential for martyrdom begins early. INFP children can spend a disproportionate amount of time daydreaming and being preoccupied with inner thoughts. They are often good students and expend a lot of energy pleasing their teachers. They tend to do well in high school, and often excel in college. To please others, they may take courses they do not like--and even succeed in them. The potential for self-doubt and self-criticism, however, is

always close to the surface. Even when told they have done a "good job," INFPs know the only true judge is themselves, and may punish themselves for work they consider less than perfect.

In general, while INFPs love to learn, grow, excel, and please others, they are always their own worst critics; they often remind themselves that they could have done better. It is a lifelong struggle between self-approbation and self-depreciation. In the end, INFPs almost always tend to sell themselves short.

Family events for an INFP are expressions of the essentials of life, and a lot of energy can be directed to celebrating such family rituals as birthdays, anniversaries, or graduations. Loyalty and service to the family can keep an INFP a "child" at any age and always close psychologically, if not physically, to parents and family.

The values that shape INFPs' family life and personal growth patterns highlight their career choices: integrity, hard work, idealism, sensitivity, and concern for other people. INFPs also bring their self-criticism and perfectionism to the workplace, which can sometimes hamper their natural skills. An INFP maybe an excellent musician or a superb teacher, but even if showered with accolades, INFPs may never quite be satisfied. Their high learning abilities may lead them to careers in which they excel academically but for which they are typologically somewhat miscast. The daughter of an engineer may pursue that career to please her father--and find it academically very attainable and challenging--although as an NFP, she may find the world of engineering foreign, even hostile, turf.

Those careers that involve human service are the ultimate home of the INFP: psychology, teaching, family medicine, and church work, for example. In the long haul, what INFPs choose as a career must serve their own idealism. If it doesn't, they can become restless and stressed and their work can become sloppy and counterproductive.

Retirement tends to be relished by INFPs because the little piles of to-dos they have been amassing for years can be rearranged, pondered, and finally tackled. They tend not to "slow down" in later life, approaching their postcareer hobbies with the same intensity they once reserved for children and careers. They may approach retirement with a particular joy if it allows them to leave a traditional career or job that imposed the kind of structure and rigidity that INFPs resist. Still appearing externally relaxed, they tend to continue to be internally driven by a call to serve humanity--in the form of children, grandchildren, organizations, causes, or any other local or world issues.

Abraham Lincoln quite possibly personifies the INFP. As a young man, seeing slaves loaded into a boat, he took the cause of freedom into heart, ultimately imposing his crusade on the entire nation. Isabel Briggs Myers, another INFP, carried on her mission--that people learn how to use their personality differences more constructively and creatively--throughout her entire life. From age twenty to eighty, she endlessly created, researched, and refined the Myers-Briggs Type Indicator. Carl Rogers, one of the pillars of American modern psychology, saw the need for a therapeutic model that enhanced individual self-development--itself an INFP cause--and spent his life developing nondirective counseling.

Type Talk (1988) Kroeger/Thuesen  
Pages 215-280

## Appendix E

## Report Form for the MBTI

## Report Form for the Myers-Briggs Type Indicator™

Name: \_\_\_\_\_ Sex: ☐ Male ☐ Female Date: \_\_\_\_\_

The MBTI™ reports your preferences on four scales. There are two opposite preferences on each scale. The four scales deal with where you like to focus your attention (E or I), the way you like to look at things (S or N), the way you like to go about deciding things (T or F), and how you deal with the outer world (J or P). Short descriptions of each scale are shown below.

- |          |  |    |          |  |
|----------|--|----|----------|--|
| <b>E</b> | You prefer to focus on the outer world of people and things                            | or | <b>I</b> | You prefer to focus on the inner world of ideas and impressions  |
| <b>S</b> | You tend to focus on the present and on concrete information gained from your senses   | or | <b>N</b> | You tend to focus on the future, with a view toward patterns and possibilities                               |
| <b>T</b> | You tend to base your decisions on logic and on objective analysis of cause and effect | or | <b>F</b> | You tend to base your decisions primarily on values and on subjective evaluation of person-centered concerns |
| <b>J</b> | You like a planned and organized approach to life and prefer to have things settled    | or | <b>P</b> | You like a flexible and spontaneous approach to life and prefer to keep your options open                    |

The four letters show your Reported Type, which is the combination of the four preferences you chose. There are sixteen possible types.


Preference scores show how consistently you chose one preference over the other; high scores usually mean a clear preference. Preference scores do not measure abilities or development.

PREFERENCE SCORES:

		60										60																	
		60	50	40	30	20	10	0	10	20	30	40	50	60			60	50	40	30	20	10	0	10	20	30	40	50	60
EXTRAVERSION	E	.	.	.	.	.	.	.	.	.	.	.	.	.	.	I	.	.	.	.	.	.	.	.	.	.	.	.	.
SENSING	S	.	.	.	.	.	.	.	.	.	.	.	.	.	.	N	.	.	.	.	.	.	.	.	.	.	.	.	.
THINKING	T	.	.	.	.	.	.	.	.	.	.	.	.	.	.	F	.	.	.	.	.	.	.	.	.	.	.	.	.
JUDGING	J	.	.	.	.	.	.	.	.	.	.	.	.	.	.	P	.	.	.	.	.	.	.	.	.	.	.	.	.
		I										N																	
		INTROVERSION										INTUITION																	
		F										P																	
		FEELING										PERCEIVING																	

Each type tends to have different interests and different values. On the back of this page are very brief descriptions of each of the sixteen types. Find the one that matches the four letters of your Reported Type and see whether it fits you. If it doesn't, try to find one that does. For a more complete description of the types and the implications for career choice, relationships and work behavior, see *Introduction to Type* by Isabel Briggs Myers. Remember that everyone uses each of the preferences at different times, your Reported Type shows which you are likely to prefer the most and probably use most often.

## Characteristics of Type

Sensing Types		Introverts		Extroverts	
<b>ISTJ</b>	Serious, quiet, team successful, concentration and thoughtful. Practical, orderly, efficient, intelligent, hard working. They are a little bit more reserved, but they are very good at their jobs. They are very good at their jobs. They are very good at their jobs.	<b>INTJ</b>	They have original minds and great drive for their ideas and purposes in their life. They are very good at their jobs. They are very good at their jobs.	<b>ENTJ</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.
<b>ISFP</b>	Quiet, friendly, tolerant, and considerate. They are very good at their jobs. They are very good at their jobs.	<b>INFP</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.	<b>ENFP</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.
<b>ISTP</b>	Cool, composed, quiet, reserved, observing and analytical. They are very good at their jobs. They are very good at their jobs.	<b>INTP</b>	Quiet and reserved. Especially enjoy theoretical or scientific pursuits. They are very good at their jobs. They are very good at their jobs.	<b>ENTP</b>	Quick, ingenious, good at many things. They are very good at their jobs. They are very good at their jobs.
<b>ISFP</b>	Poling, quietly friendly, serene, kind, modest about their abilities. They are very good at their jobs. They are very good at their jobs.	<b>INFP</b>	Full of enthusiasms and fantasies, but seldom talk of these. They are very good at their jobs. They are very good at their jobs.	<b>ENFP</b>	Warmly enthusiastic, right-minded, ingenious, imaginative. They are very good at their jobs. They are very good at their jobs.
<b>ISFP</b>	Often relaxed, but getting things done. They are very good at their jobs. They are very good at their jobs.	<b>INFP</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.	<b>ENFP</b>	Wasting time, but getting things done. They are very good at their jobs. They are very good at their jobs.
<b>ISTP</b>	Using logical principles. They are very good at their jobs. They are very good at their jobs.	<b>INTP</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.	<b>ENTP</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.
<b>ESTJ</b>	Good at on the spot problem solving. They are very good at their jobs. They are very good at their jobs.	<b>ENTJ</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.	<b>ENTJ</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.
<b>ESTJ</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.	<b>ENTJ</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.	<b>ENTJ</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.
<b>ESTJ</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.	<b>ENTJ</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.	<b>ENTJ</b>	They are very good at their jobs. They are very good at their jobs. They are very good at their jobs.

## Temperament Report Form for \_\_\_\_\_

Date \_\_\_\_\_

This report form provides a summary of your Myers Briggs Type Indicator<sup>®</sup> (MBTI<sup>®</sup>) results, which are based on your own self-report. It is recommended that your results be verified by you as accurate through feedback and interaction with a person knowledgeable about the MBTI and temperaments or through your own reading and understanding of the more detailed descriptions found in *Please Understand Me* by David Keirsey and Marilyn Bates or *Portraits of Temperament* by David Keirsey.

The MBTI reports preferences on four scales, with two opposite preferences on each scale. The strength of your preferences in response to the MBTI were:

E	Extraversion <i>Energized w/ Others</i>	or	I	Introversion <i>Energized Alone</i>
S	Sensing <i>Concrete</i>	or	N	iNtuition <i>Abstract</i>
T	Thinking <i>Objective</i>	or	F	Feeling <i>Personal</i>
J	Judging <i>Structured</i>	or	P	Perceiving <i>Spontaneous</i>

	Slight	Moderate	Clear
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

The feedback from the MBTI is four letters representing preferences on these four scales. The MBTI is helpful in determining your temperament. Temperament refers to the "form" of personality and examines themes and core values expressed through behaviors. These patterns of behavior have been observed over the last 25 centuries and are briefly summarized here. (Brief descriptions of the four varieties of each temperament are on the other side.)

Your indicated temperament was:

NF's and NT's have in common  
Abstract/Symbolic Consciousness

SJ's and SP's have in common  
Concrete Signal Consciousness

NF's and SJ's have in common  
Affiliation/Consensus - the  
perpetuation of moral and social  
values of care and cooperation

NT's and SP's have in common  
Pragmatism/Autonomy - the  
use of power for the sake of  
expediency

<p><b>NF Idealists</b></p> <p>Want to be authentic, benevolent and empathic. Search for identity, meaning and significance. Relationship oriented, valuing meaningful relationships. Romantic, idealistic, wanting to make the world a better place. Look to the future. Trust their intuition, imagination, fantasy. Focus on developing potential, fostering and facilitating growth through coaching, teaching, counseling, communicating. Generally enthusiastic. Think in terms of integration and similarities and look for universals. Gifted in the use of metaphors to bridge different perspectives. Diplomatic. Well suited for all manner of "people" work.</p>	<p><b>SJ Guardians</b></p> <p>Want to fit in, to have membership. Hunger for responsibility and accountability. Tend to be generous, to serve and to do their duty. Establish and maintain institutions and standard operating procedures. Tend to protect and preserve, so stand guard and warn. Look to the past and tradition. Foster enculturation with ceremonies and rules. Trust contracts and authority. Want security and stability. Think in terms of the conventional, associations and discrete elements. Generally serious and concerned, fatalistic. Skilled at ensuring that things and people are in the right place, in the right amounts, the right quality, at the right time. Frequently gravitate towards business and commerce.</p>
<p><b>NT Rationals</b></p> <p>Want knowledge and to be competent, to achieve. Seek to understand how the world and things in it work. Theory oriented. Everything is conditional and relative. Future oriented. Trust logic and reason. Want to have a rationale for everything. Skeptical. Think in terms of differences, delineating categories, definitions, structures and functions. Hunger for precision, especially in thought and language. Skilled at long range planning, inventing, designing and defining. Generally calm. Foster individualism. Frequently gravitate toward technology and the sciences. Well suited for engineering and devising strategy, whether in the social or physical sciences.</p>	<p><b>SP Artisans</b></p> <p>Want the freedom to choose the next act, to have and to act on impulses. Want to be graceful, bold and impressive, to have impact. Generally excited and optimistic. Absorbed in the action of the moment. Oriented toward the present. Seek adventure and experiences. Hunger for spontaneity. Trust impulses, luck and their ability to solve any problem they run into. Think in terms of variation, variations on a theme. Ability to notice and describe detail. Like freedom to move, festivities and games. Natural negotiators. Seize opportunities. Gifted tacticians, deciding the best move to make in the moment, the expedient thing to do. Frequently drawn to the arts, manual, visual and performing.</p>

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